

**Technical Support Document  
for  
Draft Air Emission Permit No. 04500049-102**

This technical support document (TSD) is intended for all parties interested in the draft permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the draft permit.

## **1. General information**

### **1.1 Applicant and stationary source location**

**Table 1. Applicant and source address**

| <b>Applicant/Address</b>                                                      | <b>Stationary source/Address</b><br>(SIC Code: 2869 - Industrial Organic Chemicals, Not<br>Elsewhere Classified) |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| POET Biorefining - Preston<br>701 Industrial Dr N<br>Preston, Minnesota 55965 | POET Biorefining - Preston<br>701 Industrial Dr N<br>Preston, MN 55965-9017                                      |
| Contact: David Westlund<br>Phone: 605-965-4962                                |                                                                                                                  |

### **1.2 Facility description**

The POET Biorefining - Preston, LLC (Facility) is located at 701 Industrial Drive in Preston, Filmore County, Minnesota.

POET Biorefining - Preston, LLC (POET) operates a bioethanol production plant (facility) in Preston, Minnesota. POET primarily uses corn feedstock to produce fuel ethanol and byproducts. The facility is permitted to produce up to 80 million gallons of undenatured ethanol, process 4.0 million gallons of denaturant, receive 814,600 tons of grain, and loadout 221,920 tons of dry distiller's grain with solubles (DDGS) or modified distiller's grains with solubles (MDGS) per year. Operations at the facility include grain receiving, milling, fermentation, distillation, dehydration to remove residual water, denaturing (adding gasoline or a similar denaturant), storage and loadout to trucks. Byproducts, DDGS, MDGS, wetcake, corn oil, and Liquid CO<sub>2</sub> are also produced, stored onsite, and shipped out by truck.

POET is required to have a Part 70 permit and has taken limits to avoid Prevention of Significant Deterioration (PSD) permitting thresholds. Pollutants emitted include particulate matter (PM), particulate matter smaller than 10 microns (PM<sub>10</sub>), particulate matter smaller than 2.5 microns (PM<sub>2.5</sub>), volatile organic compounds (VOC), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), hazardous air pollutants (HAP), and greenhouse gases (GHG, primarily carbon dioxide). Sources of emissions from the facility include: grain receiving and handling, milling, fermentation, distillation, DDGS & wetcake production, storage and handling, natural gas combustion, product and denaturant storage and loadout, leaks from piping connections, cooling towers, and truck traffic.

A regenerative thermal oxidizer (RTO) controls VOC and HAP emissions from fermentation process, DDGS drying and other processes. Wet scrubbers control VOC and HAP emissions from the fermentation process and the distillation processes. Baghouses control PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from grain and DDGS handling and processing sources. A flare controls VOC and HAP emissions from the ethanol loadout process. The large product storage tanks are equipped with internal floating roofs to control VOCs. Emissions from equipment leaks are controlled through an inspection and maintenance program.

### 1.3 Description of the activities allowed by this permit action

This permit action is a Part 70 Reissuance. This permit action also includes a major amendment to use a processing aid for mitigation of Deoxynivalenol (DON) mycotoxin. The processing aid will be added to the syrup tank and then be pumped into the DDGS dryers. In addition to VOC and HAP emissions, the processing aid will result in SO<sub>2</sub> emissions from the RTO, fluid bed cooler and DDGS silo. This permit action also updates the TREA 19 (Fermentation Scrubber) water flow to greater than or equal to 26.7 gallons per minute and additive flow to greater than or equal to 1.5 gallons per hour during operation in alternative operating scenario 2. No new construction is being authorized, however, construction authorization for all equipment in the previous two permit actions is being set to 5 years after issuance of permit 04500049-101 (July 25, 2029).

### 1.4 Description of notifications and applications included in this action

**Table 2. Notifications and applications included in this action**

| Date received | Application/Notification type and description |
|---------------|-----------------------------------------------|
| 03/02/2026    | Major Amendment (IND20260001)                 |
| 11/22/2023    | Part 70 Reissuance (IND20230001)              |

### 1.5 Facility emissions

**Table 3. Title I emissions summary (IND20260001)**

| Pollutant                 | Unlimited potential emissions from the modification (tpy) | Limited potential emissions from the modification (tpy) | NSR/112(g) threshold for new major source (tpy) | NSR/112(g) review required? (yes/no) |
|---------------------------|-----------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------|--------------------------------------|
| PM                        | 0.00                                                      | 0.00                                                    | 250                                             | No                                   |
| PM <sub>10</sub>          | 0.00                                                      | 0.00                                                    | 250                                             | No                                   |
| PM <sub>2.5</sub>         | 0.00                                                      | 0.00                                                    | 250                                             | No                                   |
| NO <sub>x</sub>           | 0.00                                                      | 0.00                                                    | 250                                             | No                                   |
| SO <sub>2</sub>           | 192.77                                                    | 192.77                                                  | 250                                             | No                                   |
| CO                        | 0.00                                                      | 0.00                                                    | 250                                             | No                                   |
| Ozone (VOC)               | 8.11                                                      | 8.11                                                    | 250                                             | No                                   |
| Lead                      | 0.00                                                      | 0.00                                                    | 0.6                                             | No                                   |
| CO <sub>2</sub> e         | 0.00                                                      | 0.00                                                    | 100,000                                         | No                                   |
| individual and total HAPs | 0.68*/2.87                                                | 0.68*/2.87                                              | 10/25                                           | No                                   |

\*: Acetaldehyde

**Table 4. Total facility potential to emit summary**

|                                            | PM (tpy) | PM <sub>10</sub> (tpy) | PM <sub>2.5</sub> (tpy) | SO <sub>2</sub> (tpy) | NO <sub>x</sub> (tpy) | CO (tpy) | CO <sub>2</sub> e (tpy) | VOC (tpy) | Single HAP** (tpy) | All HAPs (tpy) |
|--------------------------------------------|----------|------------------------|-------------------------|-----------------------|-----------------------|----------|-------------------------|-----------|--------------------|----------------|
| Total facility limited potential emissions | 107.6    | 91.6                   | 85.6                    | 226.2                 | 93.5                  | 109.5    | 392,900                 | 156.8     | 5.94               | 16.9           |
| Total facility actual emissions            | 38.5     | 31.7                   | 28.3                    | 1.06                  | 43.6                  | 87.1     | *                       | 75.8      | *                  |                |

|        | PM<br>(tpy) | PM <sub>10</sub><br>(tpy) | PM <sub>2.5</sub><br>(tpy) | SO <sub>2</sub><br>(tpy) | NO <sub>x</sub><br>(tpy) | CO<br>(tpy) | CO <sub>2e</sub><br>(tpy) | VOC<br>(tpy) | Single<br>HAP**<br>(tpy) | All<br>HAPs<br>(tpy) |
|--------|-------------|---------------------------|----------------------------|--------------------------|--------------------------|-------------|---------------------------|--------------|--------------------------|----------------------|
| (2025) |             |                           |                            |                          |                          |             |                           |              |                          |                      |

\*Not reported in Minnesota emission inventory.

\*\*Acetaldehyde

**Table 5. Facility classification**

| Classification    | Major | Synthetic minor/area | Minor/Area |
|-------------------|-------|----------------------|------------|
| New Source Review |       | X                    |            |
| Part 70           | X     |                      |            |
| Part 63           |       | X                    |            |

## 1.6 Changes to permit

The permit does not authorize any specific modifications, however, the MPCA has a combined operating and construction permitting program under Minnesota Rules Chapter 7007, and under Minn. R. 7007.0800, the MPCA has authority to include additional requirements in an operating permit. The following changes to the permit are made through this permit action:

- The permit has been updated to reflect current MPCA templates and standard citation formatting;
- Completed requirements and the requirements for equipment that has been removed have been deleted;
- Compliance Assurance Monitoring (CAM) has been added for TREAs 26 and 27 as discussed in Table 6 of this TSD;
- EQUIs representing uncaptured emissions (EQUIs 176, 178 and 224) have been removed;
- Permit flexibility has been removed and replaced with standard precap language;
- Requirements at common STRUs that previously contained permit flexibility language have been moved to COMGs and now contain precap language;
- Requirements at STRUs that received emissions from one emission unit were moved to the EQUI;
- Maximum achievable process rates (MAPR) were removed;
- One-time opacity testing was added to EQUI 1 and EQUI 28, and one-time opacity and PM testing was added to COMG 16 to show compliance with limits from 40 CFR pt. 60, subp. DD;
- Construction authorization was added to EQUI 204 which was previously permitted;
- Control equipment requirements were modified to include current standard language “follow up compliance letter”, replacing the previous language “Notice of Compliance letter”;
- Appendix B (Subject Item Data for Flexible Permitting), C (Performance Test Recordkeeping Items and Test Methods) and D (Ambient Air Modeling Parameters) were removed; and
- Appendix G (40 CFR pt. 60, subp. Kb), H (Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations), and I (40 CFR pt. 60, subp. DD) were added, though, Appendix H did exist as part of Appendix C, previously.

## 2. Regulatory and/or statutory basis

### 2.1 New source review (NSR)

The permit carries forward limits on the facility such that it is a minor source under New Source Review regulations. No modifications are authorized by this permit.

### 2.2 Part 70 permit program

The facility is a major source under the Part 70 permit program.

### 2.3 New source performance standards (NSPS)

The Permittee has stated that New Source Performance Standards apply to the operations at this facility.

40 CFR pt. 60, subp. Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984, and on or before October 4, 2023, applies to EQUIs 34 (200 Proof Ethanol Storage Tank (T804)), 35 (200 Proof Ethanol Storage Tank (T806)), 36 (190 Proof Ethanol Storage Tank), 37 (200 Proof Ethanol Storage Tank (T803)), and 38 (Denaturant Tank (T802)). EQUI 212 (Corrosion Inhibitor Storage Tank (T852)) is exempt from 40 CFR pt. 60, subp. Kb because its capacity is less than the threshold of 75 cubic meters (19, 813 gal).

40 CFR pt. 60, subp. DD, Standards of Performance for Grain Elevators applies to Grain Storage Bins 1-9 (EQUIs 29-31 and 47-52) at COMG 16 and the Grain Receiving Pit 1 (EQUI 1) and Grain Receiving Pit 2 (EQUI 28).

40 CFR pt. 60, subp. Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units applies to EQUIs 9 and 14.

40 CFR pt. 60, subp. VVa, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced after November 7, 2006, and on or before April 25, 2023 applies to all components represented under FUGI 7 (Miscellaneous VOC Fugitives).

40 CFR pt. 60, subp. IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines applies to EQUI 218 (Emergency Diesel Generator).

### 2.4 National emission standards for hazardous air pollutants (NESHAP)

The facility has accepted limits on HAP emissions such that it is an area source under 40 CFR pt. 63. Thus, no major source NESHAPs apply.

40 CFR pt. 63, subp. ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines applies to EQUI 218 (Emergency Diesel Generator). EQUI 218 is a new stationary RICE at an area source of HAP emissions that commenced construction after June 12, 2006, as described in 40 CFR § 63.6590(a)(2)(iii). EQUI 218 meets the requirements of 40 CFR pt. 63, subp. ZZZZ by meeting the requirements of 40 CFR pt. 60, subp. IIII, as described under 40 CFR § 63.6590(c).

### 2.5 Compliance assurance monitoring (CAM)

The table below lists the sources subject to CAM, the control equipment used, whether the source is a large or other pollutant specific emission unit (PSEU), and the pollutants triggering CAM.

**Table 6. CAM summary**

| Unit                                                      | Control                                | CAM applicability | Pollutant | Emission Limitation Basis                                      |
|-----------------------------------------------------------|----------------------------------------|-------------------|-----------|----------------------------------------------------------------|
| EQUIs 12, 54-60, 63-66, 205, 206, 236, 237                | TREA 19: Scrubber<br>TREA 25: Scrubber | Other             | VOC       | Consent Decree, Limit to avoid PSD major source & modification |
| EQUIs 4, 6, 13, 17, 53, 62, 68-70, 194, 207, 217, 226-231 | TREA 17: Scrubber                      | Other             | VOC       | Limit to avoid PSD major source & modification                 |



| <b>Unit</b>                                                                | <b>Control</b>            | <b>CAM applicability</b> | <b>Pollutant</b>                            | <b>Emission Limitation Basis</b>                                 |
|----------------------------------------------------------------------------|---------------------------|--------------------------|---------------------------------------------|------------------------------------------------------------------|
| EQUIs 1-3, 15, 16, 47-52, 180-187                                          | TREA 15: Fabric Filter    | Other                    | PM <sub>10</sub>                            | Title V modeling, Limit to avoid PSD major source & modification |
| EQUIs 24, 96, 97, 193, 220, 233                                            | TREA 7: Fabric Filter     | Other                    | PM <sub>10</sub> /PM <sub>2.5</sub>         | Title V modeling, Limit to avoid PSD major source & modification |
| EQUIs 25, 96, 97, 193, 221, 233                                            | TREA 8: Fabric Filter     | Other                    | PM <sub>10</sub> /PM <sub>2.5</sub>         | Title V modeling, Limit to avoid PSD major source & modification |
| EQUIs 26, 96, 97, 193, 222, 233                                            | TREA 9: Fabric Filter     | Other                    | PM <sub>10</sub> /PM <sub>2.5</sub>         | Title V modeling, Limit to avoid PSD major source & modification |
| EQUIs 27, 96, 97, 193, 223, 233                                            | TREA 10: Fabric Filter    | Other                    | PM <sub>10</sub> /PM <sub>2.5</sub>         | Title V modeling, Limit to avoid PSD major source & modification |
| EQUIs 28-33, 188-191                                                       | TREA 11: Fabric Filter    | Other                    | PM <sub>10</sub>                            | Title V modeling, Limit to avoid PSD major source & modification |
| EQUIs 67, 71                                                               | TREA 6: Flare             | Other                    | VOC                                         | Limit to avoid PSD major source & modification                   |
| EQUIs 12, 20, 54-61, 63-66, 195-197, 203, 205, 206, 211, 214-216, 236, 237 | TREA 14: Thermal Oxidizer | Other                    | PM <sub>10</sub> /PM <sub>2.5</sub> /CO/VOC | Consent Decree, Limit to avoid PSD major source & modification   |
| EQUIs 11, 83, 198                                                          | TREA 20: Fabric Filter    | Other                    | PM <sub>10</sub> /PM <sub>2.5</sub>         | Title V modeling, Limit to avoid PSD major source & modification |
| EQUIs 233-235                                                              | TREA 26: Fabric Filter    | Other                    | PM <sub>10</sub> /PM <sub>2.5</sub>         | Title V modeling, Limit to avoid PSD major source & modification |

| Unit                                                                       | Control                   | CAM applicability | Pollutant                                   | Emission Limitation Basis                                      |
|----------------------------------------------------------------------------|---------------------------|-------------------|---------------------------------------------|----------------------------------------------------------------|
| EQUIs 12, 20, 54-61, 63-66, 195-197, 203, 205, 206, 211, 214-216, 236, 237 | TREA 27: Thermal Oxidizer | Other             | PM <sub>10</sub> /PM <sub>2.5</sub> /CO/VOC | Consent Decree, Limit to avoid PSD major source & modification |

See Attachment 3 to this document for the CAM Plan submitted by the applicant.

## 2.6 Regulatory Overview

**Table 7. Regulatory overview of facility**

| Subject item*                       | Applicable regulations                                                                                                                                                                                                                                                                     | Rationale                                                                                                                                                                                                                                      |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TFAC 1 - Air Quality Total Facility | Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title V modeling                                                                                                                        | Production and throughput limits to restrict allowable emissions below major source thresholds for PSD and Part 63 major source.                                                                                                               |
| COMG 4 - Boiler and Dryer Fuel Use  | CAAA of 1990, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000                                                                                                                                                                                     | Consent Decree limit for NOx emissions from boiler and dryer to avoid major source under PSD.                                                                                                                                                  |
| COMG 12 - Grain Milling             | Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling                                                                                                                                                                                 | Throughput limit to avoid major source under PSD and Title V modeling.                                                                                                                                                                         |
| COMG 13 - HAP Limit                 | Title I Condition: Avoid major source under 40 CFR 63.2                                                                                                                                                                                                                                    | Limits to avoid major source under 40 CFR pt. 63 for single and total HAPs.                                                                                                                                                                    |
| COMG 14 - Fermentation Scrubber     | CAAA of 1990, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Minn. R. 7007.0800, subp. 11 | Consent Decree limits to avoid major source and modification under PSD, avoid major source under 40 CFR pt. 63. Alternative operating scenarios for control.                                                                                   |
|                                     | Minn. R. 7011.0715                                                                                                                                                                                                                                                                         | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| COMG 15 - Distillation Scrubber     | CAAA of 1990, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000                                                                                        | Consent Decree requirement to control emissions using a scrubber. Limits to avoid major source and modification under PSD.                                                                                                                     |

| <b>Subject item*</b>                | <b>Applicable regulations</b>                                                                                                                                                                                                                                                                                | <b>Rationale</b>                                                                                                                                                                                                                               |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | Minn. R. 7011.0715                                                                                                                                                                                                                                                                                           | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| COMG 16 - NSPS DD Storage Bins      | 40 CFR pt. 60, subp. DD, Minn. R. 7011.1005, subp. 2                                                                                                                                                                                                                                                         | Standards of Performance for Grain Elevators <ul style="list-style-type: none"> <li>Constructed after August 2, 1978</li> <li>Permanent storage capacity &gt; 2.5 million bushels</li> </ul>                                                   |
| COMG 17 - DDGS Silo                 | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling                                                                                                      | Limits to avoid major source and modification under PSD and Title V modeling.                                                                                                                                                                  |
|                                     | Minn. R. 7011.1005                                                                                                                                                                                                                                                                                           | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                           |
| COMG 18 - Grain Handling Pit #1     | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling                                                                                                      | Limits to avoid major source and modification under PSD and Title V modeling.                                                                                                                                                                  |
|                                     | Minn. R. 7011.1005                                                                                                                                                                                                                                                                                           | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                           |
| COMG 19 - Receiving Pit #2          | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling                                                                                                      | Limits to avoid major source and modification under PSD and Title V modeling.                                                                                                                                                                  |
| COMG 20 - Centrifuges to Atmosphere | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000                                                                                                                        | Limit to avoid major source and modification under PSD.                                                                                                                                                                                        |
| COMG 21 - 3-Chambered RTO           | CAAA of 1990, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title V modeling, Minn. R. 7007.0800, subp. 11 | Consent Decree limits to avoid major source and modification under PSD, avoid major source under 40 CFR pt. 63, and Title V modeling.<br>Alternative operating scenarios.                                                                      |

| Subject item*           | Applicable regulations                                                                                                                                                                                                                                                                                       | Rationale                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Minn. R. 7011.0610                                                                                                                                                                                                                                                                                           | Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment <ul style="list-style-type: none"> <li>• Construction on or after July 9, 1969;</li> <li>• The unit burns liquid fuel;</li> <li>• The facility is located outside of the Twin Cities; and</li> <li>• The facility has less than or equal to 250 MMBtu/hr of direct heating equipment.</li> </ul> Applies to EQUIs 20 and 61. |
|                         | Minn. R. 7011.0715                                                                                                                                                                                                                                                                                           | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. Applies to all COMG 21 members except EQUIs 20 and 61.                                                                                                  |
| COMG 22 - RTO 2         | CAAA of 1990, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, Title V modeling, Minn. R. 7007.0800, subp. 11 | Consent Decree limits to avoid major source and modification under PSD, avoid major source under 40 CFR pt. 63, and Title V modeling.<br><br>Alternative operating scenarios.                                                                                                                                                                                                                          |
|                         | Minn. R. 7011.0610                                                                                                                                                                                                                                                                                           | Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment <ul style="list-style-type: none"> <li>• Construction on or after July 9, 1969;</li> <li>• The unit burns liquid fuel;</li> <li>• The facility is located outside of the Twin Cities; and</li> <li>• The facility has less than or equal to 250 MMBtu/hr of direct heating equipment.</li> </ul> Applies to EQUIs 20 and 61. |
|                         | Minn. R. 7011.0715                                                                                                                                                                                                                                                                                           | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. Applies to all COMG 22 members except EQUIs 20 and 61.                                                                                                  |
| COMG 23 - Hammermill #1 | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling                                                                                                      | Limits to avoid major source and modification under PSD, and Title V modeling.                                                                                                                                                                                                                                                                                                                         |

| <b>Subject item*</b>       | <b>Applicable regulations</b>                                                                                                                                                                           | <b>Rationale</b>                                                                                                                                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | Minn. R. 7011.0715                                                                                                                                                                                      | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| COMG 24 -<br>Hammermill #2 | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling | Limits to avoid major source and modification under PSD, and Title V modeling.                                                                                                                                                                 |
|                            | Minn. R. 7011.0715                                                                                                                                                                                      | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| COMG 25 -<br>Hammermill #3 | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling | Limits to avoid major source and modification under PSD, and Title V modeling.                                                                                                                                                                 |
|                            | Minn. R. 7011.0715                                                                                                                                                                                      | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| COMG 26 -<br>Hammermill #4 | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling | Limits to avoid major source and modification under PSD, and Title V modeling.                                                                                                                                                                 |
|                            | Minn. R. 7011.0715                                                                                                                                                                                      | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| COMG 27 -<br>Hammermill #5 | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling | Limits to avoid major source and modification under PSD, and Title V modeling.                                                                                                                                                                 |
|                            | Minn. R. 7011.0715                                                                                                                                                                                      | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |

| Subject item*                             | Applicable regulations                                                                                                                            | Rationale                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EQUI 1 - Grain Receiving Pit 1            | 40 CFR pt. 60, subp. DD, Minn. R. 7011.1005, subp. 2                                                                                              | Standards of Performance for Grain Elevators <ul style="list-style-type: none"> <li>Constructed after August 2, 1978</li> <li>Permanent storage capacity &gt; 2.5 million bushels</li> </ul>                                                                                                                  |
| EQUI 5 - DDGS Storage Building            | Minn. R. 7011.1005, subp. 3(A)                                                                                                                    | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                                                                                          |
| EQUI 8 - DDGS Loadout Elevator            | CAAA of 1990                                                                                                                                      | Minimize fugitive emissions to a level consistent with RACT (Reasonably Available Control Technology).                                                                                                                                                                                                        |
|                                           | Title V modeling                                                                                                                                  | Hours of operation limit to comply with NAAQS.                                                                                                                                                                                                                                                                |
|                                           | Minn. R. 7011.1005, subp. 3(A)                                                                                                                    | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                                                                                          |
| EQUI 9 - Boiler #1                        | 40 CFR pt. 60, subp. Dc, Minn. R. 7011.0570                                                                                                       | NSPS for Small Industrial-Commercial-Institutional Steam Generating Units. Applicability criteria include: <ul style="list-style-type: none"> <li>Unit commenced construction after June 9, 1989;</li> <li>Capacity &gt;= 10 MMBtu/hr and &lt;= 100 MMBtu/hr; and</li> <li>Burns natural gas only.</li> </ul> |
|                                           | Title V modeling                                                                                                                                  | Modeling limit to comply with NAAQS.                                                                                                                                                                                                                                                                          |
| EQUI 14 - Boiler #2                       | 40 CFR pt. 60, subp. Dc, Minn. R. 7011.0570                                                                                                       | NSPS for Small Industrial-Commercial-Institutional Steam Generating Units. Applicability criteria include: <ul style="list-style-type: none"> <li>Unit commenced construction after June 9, 1989;</li> <li>Capacity &gt;= 10 MMBtu/hr and &lt;= 100 MMBtu/hr; and</li> <li>Burns natural gas only.</li> </ul> |
|                                           | Title V modeling                                                                                                                                  | Modeling limit to comply with NAAQS.                                                                                                                                                                                                                                                                          |
| EQUI 20 - DDGS Dryer #1 with Multicyclone | Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2 | Limit to avoid major source under PSD and 40 CFR pt. 63.                                                                                                                                                                                                                                                      |
| EQUI 23 - Fluid Bed Cooler                | CAAA of 1990, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling                          | Consent Decree, limits to avoid major source under PSD and Title V modeling.                                                                                                                                                                                                                                  |
|                                           | Minn. R. 7011.0715                                                                                                                                | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969.                                                                |
| EQUI 28 - Grain Receiving Pit 2           | 40 CFR pt. 60, subp. DD, Minn. R. 7011.1005, subp. 2                                                                                              | Standards of Performance for Grain Elevators <ul style="list-style-type: none"> <li>Constructed after August 2, 1978</li> <li>Permanent storage capacity &gt; 2.5 million bushels</li> </ul>                                                                                                                  |

| Subject item*                                   | Applicable regulations                         | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EQUI 34 - 200 Proof Ethanol Storage Tank (T804) | 40 CFR pt. 60, subp. Kb, Minn. R. 7011.1520(C) | Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984, and on or before October 4, 2023 <ul style="list-style-type: none"> <li>• Tank stores volatile organic liquid with capacity &gt; 75 cubic meters;</li> <li>• Maximum vapor pressure &gt; 5.2 kPa; and</li> <li>• Constructed after July 23, 1984 &amp; on or before October 4, 2023.</li> </ul> |
| EQUI 35 - 200 Proof Ethanol Storage Tank (T806) | 40 CFR pt. 60, subp. Kb, Minn. R. 7011.1520(C) | Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984, and on or before October 4, 2023 <ul style="list-style-type: none"> <li>• Tank stores volatile organic liquid with capacity &gt; 75 cubic meters;</li> <li>• Maximum vapor pressure &gt; 5.2 kPa; and</li> <li>• Constructed after July 23, 1984 &amp; on or before October 4, 2023.</li> </ul> |
| EQUI 36 - 190 Proof Ethanol Storage Tank        | 40 CFR pt. 60, subp. Kb, Minn. R. 7011.1520(C) | Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984, and on or before October 4, 2023 <ul style="list-style-type: none"> <li>• Tank stores volatile organic liquid with capacity &gt; 75 cubic meters;</li> <li>• Maximum vapor pressure &gt; 5.2 kPa; and</li> <li>• Constructed after July 23, 1984 &amp; on or before October 4, 2023.</li> </ul> |
| EQUI 37 - 200 Proof Ethanol Storage Tank (T803) | 40 CFR pt. 60, subp. Kb, Minn. R. 7011.1520(C) | Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984, and on or before October 4, 2023 <ul style="list-style-type: none"> <li>• Tank stores volatile organic liquid with capacity &gt; 75 cubic meters;</li> <li>• Maximum vapor pressure &gt; 5.2 kPa; and</li> <li>• Constructed after July 23, 1984 &amp; on or before October 4, 2023.</li> </ul> |
| EQUI 38 - Denaturant Tank (T802)                | 40 CFR pt. 60, subp. Kb, Minn. R. 7011.1520(C) | Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984, and on or before October 4, 2023 <ul style="list-style-type: none"> <li>• Tank stores volatile organic liquid with capacity &gt; 75 cubic meters;</li> <li>• Maximum vapor pressure &gt; 5.2 kPa; and</li> <li>• Constructed after July 23, 1984 &amp; on or before October 4, 2023.</li> </ul> |
|                                                 | Minn. R. 7011.1505, subp. 3(C)(1)              | Standards of Performance for Storage Vessels <ul style="list-style-type: none"> <li>• Constructed after June 11, 1973;</li> <li>• Capacity &gt; 40,000 gallons; and</li> <li>• True vapor pressure <math>\geq</math> 1.5 psia and &lt; 11.1 psia.</li> </ul>                                                                                                                                                                                                                                             |

| <b>Subject item*</b>                    | <b>Applicable regulations</b>                                                                                                                                   | <b>Rationale</b>                                                                                                                                                                                                                               |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EQUI 61 - DDGS Dryer #2 with Multiclone | Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2               | Bypass use to avoid major source under PSD and 40 CFR pt. 63.                                                                                                                                                                                  |
| EQUI 67 - Ethanol Loading Rack #1       | CAAA of 1990, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2 | Consent decree requirement to vent emissions to TREA 6, whenever EQUI 67 operates to avoid major source under PSD and 40 CFR pt. 63.                                                                                                           |
|                                         | Minn. R. 7011.0715                                                                                                                                              | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 71 - Ethanol Loading Rack #2       | CAAA of 1990, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2 | Consent decree requirement to vent emissions to TREA 6, whenever EQUI 71 operates to avoid major source under PSD and 40 CFR pt. 63.                                                                                                           |
|                                         | Minn. R. 7011.0715                                                                                                                                              | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 177 - DDGS Reclaim Pit             | Minn. R. 7011.1005, subp. 3(A)                                                                                                                                  | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                           |
| EQUI 179 - DDGS Truck Loadout Spout     | Minn. R. 7011.1005, subp. 3(B)                                                                                                                                  | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                           |
| EQUI 195 - Whole Stillage Tank          | Minn. R. 7011.0715                                                                                                                                              | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 196 - Thin Stillage Tank           | Minn. R. 7011.0715                                                                                                                                              | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 197 - Syrup Tank #1                | Minn. R. 7011.0715                                                                                                                                              | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 199 - DDGS Flat Storage Conveyor   | Minn. R. 7011.1005, subp. 3(A)                                                                                                                                  | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                           |



| <b>Subject item*</b>                               | <b>Applicable regulations</b>                                                                              | <b>Rationale</b>                                                                                                                                                                                                                               |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EQUI 200 - DDGS Reclaim Pit Conveyor               | Minn. R. 7011.1005, subp. 3(A)                                                                             | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                           |
| EQUI 201 - DDGS Truck Loadout Pit Conveyor         | Title V modeling                                                                                           | Limit on hours of operation to comply with NAAQS.                                                                                                                                                                                              |
|                                                    | Minn. R. 7011.1005, subp. 3(A)                                                                             | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                           |
| EQUI 202 - DDGS Portable Container Loadout         | Title V modeling                                                                                           | Limit on hours of operation to comply with NAAQS.                                                                                                                                                                                              |
|                                                    | Minn. R. 7011.1005, subp. 3(B)                                                                             | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                           |
| EQUI 204 - Flour Receiver                          | Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling | Limits to avoid major source under PSD and Title V modeling. Though this is a fabric filter, it is used for product recovery and not emissions control, thus this flour receiver is represented as an EQUI instead of a TREA.                  |
|                                                    | Minn. R. 7011.0715                                                                                         | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 211 - Syrup Tank #2                           | Minn. R. 7011.0715                                                                                         | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 212 - Corrosion Inhibitor Storage Tank (T852) | Minn. R. 7011.0715                                                                                         | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 213 - Flour Receiver                          | Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling | Limits to avoid major source under PSD and Title V modeling. Though this is a fabric filter, it is used for product recovery and not emissions control, thus this flour receiver is represented as an EQUI instead of a TREA.                  |
|                                                    | Minn. R. 7011.0715                                                                                         | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 214 - Centrifuge 1                            | Minn. R. 7011.0715                                                                                         | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |
| EQUI 215 - Centrifuge 2                            | Minn. R. 7011.0715                                                                                         | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969. |

| <b>Subject item*</b>                                 | <b>Applicable regulations</b>                   | <b>Rationale</b>                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EQUI 216 - Centrifuge 3                              | Minn. R. 7011.0715                              | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969.                                                                                                                             |
| EQUI 218 - Emergency Diesel Generator                | 40 CFR pt. 60, subp. IIII, Minn. R. 7011.2305   | NSPS for Stationary Compression Ignition Internal Combustion Engines <ul style="list-style-type: none"> <li>• Emergency engine;</li> <li>• 2007 and later model year;</li> <li>• Less than 30 l/cyl; and</li> <li>• Output greater than 3000 hp.</li> </ul>                                                                                                                |
|                                                      | 40 CFR pt. 63, subp. ZZZZ, Minn. R. 7011.8150   | NESHAP for Stationary Reciprocating Internal Combustion Engines. EQUI 218 is a new affected source at an area source of HAP and meets the requirements of 40 CFR pt. 63, subp. ZZZZ by meeting the requirements of 40 CFR pt. 60, subp. IIII.                                                                                                                              |
|                                                      | Title V modeling                                | Best Management Practices for Internal Combustion Engines                                                                                                                                                                                                                                                                                                                  |
| EQUI 219 - Make-Up Air Unit                          | Minn. R. 7011.0610                              | Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment <ul style="list-style-type: none"> <li>• Construction on or after July 9, 1969;</li> <li>• The unit burns liquid fuel;</li> <li>• The facility is located outside of the Twin Cities; and</li> <li>• The facility has less than or equal to 250 MMBtu/hr of direct heating equipment.</li> </ul> |
| EQUI 225 - DDGS Storage Building Handling            | Title V modeling                                | Limit on hours of operation to comply with NAAQS.                                                                                                                                                                                                                                                                                                                          |
|                                                      | Minn. R. 7011.1005, subp. 3(A)                  | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                                                                                                                                                                                                                                                                       |
| FUGI 1 - Truck Traffic Paved Roads                   | CAAA of 1990, Title V modeling                  | Consent Decree and Title V modeling.                                                                                                                                                                                                                                                                                                                                       |
|                                                      | Minn. R. 7011.0150                              | Minnesota Standard of Performance for Preventing Particulate Matter from Becoming Airborne                                                                                                                                                                                                                                                                                 |
| FUGI 7 - Miscellaneous VOC Fugitives (non-tank farm) | 40 CFR pt. 60, subp. VVa, Minn. R. 7011.2900(D) | New Source Performance Standard for Equipment Leaks of VOC in SOCMIs constructed after 11/7/2006 and on or before 4/25/2023.                                                                                                                                                                                                                                               |
| FUGI 15 - Cooling Tower 1                            | Minn. R. 7011.0715                              | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969.                                                                                                                             |
| FUGI 16 - Cooling Tower 2                            | Minn. R. 7011.0715                              | Standards of Performance for post-1969 Industrial Process Equipment for which there is no other promulgated performance standard is subject to the opacity and PM limits in this rule. Construction of the units was on or after July 9, 1969.                                                                                                                             |

| <b>Subject item*</b>                              | <b>Applicable regulations</b>                                                                                                                                                                                          | <b>Rationale</b>                                                                                                               |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| FUGI 20 - Fermenter and Beerwell Leaks (non-LDAR) | Title I Condition: Avoid major source under 40 CFR 63.2                                                                                                                                                                | Limits to avoid major source under 40 CFR pt. 63.                                                                              |
| TREA 6 - Flaring                                  | CAAA of 1990, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, 40 CFR pt. 64                                         | Consent Decree and limits to avoid major source and modification under PSD and 40 CFR pt. 63. Compliance assurance monitoring. |
| TREA 7 - Hammermill #1                            | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling, 40 CFR pt. 64 | Limits to avoid major source and modification under PSD, Title V modeling and compliance assurance monitoring.                 |
| TREA 8 - Hammermill #2                            | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling, 40 CFR pt. 64 | Limits to avoid major source and modification under PSD, Title V modeling and compliance assurance monitoring.                 |
| TREA 9 - Hammermill #3                            | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling, 40 CFR pt. 64 | Limits to avoid major source and modification under PSD, Title V modeling and compliance assurance monitoring.                 |
| TREA 10 - Hammermill #4                           | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling, 40 CFR pt. 64 | Limits to avoid major source and modification under PSD, Title V modeling and compliance assurance monitoring.                 |
| TREA 11 - Grain Receiving #2                      | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling, 40 CFR pt. 64 | Limits to avoid major source and modification under PSD, Title V modeling and compliance assurance monitoring.                 |
|                                                   | Minn. R. 7011.1005, subp. 3(E)                                                                                                                                                                                         | Minnesota Standards of Performance for Bulk Agricultural Facilities.                                                           |

| <b>Subject item*</b>                   | <b>Applicable regulations</b>                                                                                                                                                                                                                    | <b>Rationale</b>                                                                                                                                 |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| TREA 14 - Thermal Oxidizer             | CAAA of 1990, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, 40 CFR pt. 64                               | Consent Decree, limits to avoid major source and modification under PSD and compliance assurance monitoring.                                     |
| TREA 15 - Grain Receiving #1           | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling, 40 CFR pt. 64                           | Limits to avoid major source and modification under PSD, Title V modeling and compliance assurance monitoring.                                   |
| TREA 17 - Packed-Gas Absorption Column | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, 40 CFR pt. 64                                             | Limits to avoid major source and modification under PSD and compliance assurance monitoring.                                                     |
| TREA 19 - Packed-Gas Absorption Column | CAAA of 1990, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, 40 CFR pt. 64, Minn. R. 7007.0800, subp. 11 | Consent Decree, limits to avoid major source and modification under PSD and compliance assurance monitoring.<br>Alternative Operating Scenarios. |
| TREA 20 - Silo Baghouse                | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling, 40 CFR pt. 64                           | Limits to avoid major source and modification under PSD, Title V modeling and compliance assurance monitoring.                                   |
| TREA 22 - Fluid Bed Baghouse           | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling                                          | Limits to avoid major source and modification under PSD and Title V modeling.                                                                    |

| Subject item*                          | Applicable regulations                                                                                                                                                                                                                           | Rationale                                                                                                                                        |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| TREA 25 - Packed-Gas Absorption Column | CAAA of 1990, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, 40 CFR pt. 64, Minn. R. 7007.0800, subp. 11 | Consent Decree, limits to avoid major source and modification under PSD and compliance assurance monitoring.<br>Alternative Operating Scenarios. |
| TREA 26 - Hammermill #5                | Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title V modeling, 40 CFR pt. 64                           | Limits to avoid major source and modification under PSD, Title V modeling and compliance assurance monitoring.                                   |
| TREA 27 - RTO 2                        | CAAA of 1990, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, 40 CFR pt. 64                               | Consent Decree, limits to avoid major source and modification under PSD and compliance assurance monitoring.                                     |

\*Location of the requirement in the permit (e.g., EQUI 1, STRU 2, etc.).

The language 'This is a state-only requirement and is not enforceable by the U.S. Environmental Protection Agency (EPA) Administrator and citizens under the Clean Air Act' refers to permit requirements that are established only under state law and are not established under or required by the federal Clean Air Act. The language is to clarify the distinction between permit conditions that are required by federal law and those that are required only under state law. State law-only requirements are not enforceable by the EPA or by citizens under the federal Clean Air Act, but are fully enforceable by the MPCA and citizens under provisions of state law.

### 3. Technical information

#### 3.1 Calculations of potential to emit (PTE) Emissions increase analysis

Attachment 1 to this TSD contains a summary of the PTE of the Facility as well as detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

Uncontrolled emissions for grain and DDGS handling units are based on grain handling and processing emission factors from AP-42. Fabric filters control the majority of the grain and DDGS handling units at the facility. Control efficiencies for fabric filters were revised to match the efficiencies listed in the control equipment rule Minn. R. 7011.0070, Table A.

The wet scrubbers that control the fermentation and distillation processes achieve at least 95% VOC control. The thermal oxidizer achieves at least 95% VOC control, 90% CO control and 80% control for PM, PM<sub>10</sub>, and PM<sub>2.5</sub>. Uncontrolled emissions for the facility are back calculated from the permit limits. Compliance with the permit limits is shown by recurring performance testing at the associated stacks.

RTO 2 (TREA 27), when installed, will replace the existing 3-Chambered RTO (TREA 14). TREA 27 will be a 5-chambered RTO. The PTE in Attachment 1 does not account for emissions from TREA 27, however, the

emissions from TREA 27 are accounted for at COMG 22 in the permit. The emissions from TREA 14 are accounted for at COMG 21 in the permit.

Emissions were previously accounted for at individual stacks which contained permit flexibility conditions. Those permit flexibility conditions are being replaced by precap language and the permit requirements are being moved from the stack to an associated group (COMG) containing the precap permit language. In instances where one emission unit vented to a single stack, those stack permit requirements were moved to the individual emission unit.

Emission units representing uncaptured emissions were removed from the permit (EQUIs 176, 178 and 224) and their emissions were reassigned to the emission unit or group that contains the emission unit that represented the captured emissions.

The major amendment (IND20260001) incorporates the use of a processing aid to mitigate mycotoxins in the DDGS. The processing aid will be added to the syrup tanks (EQUIs 197 and 211) and pumped into the DDGS dryers (EQUIs 20 and 61). This will result in SO<sub>2</sub> emissions increases from STRUs 22, 57, 20 and 17 (PTE reflected in COMGs 21, 22, EQUI 23, and COMG 17, respectively).

### 3.2 Ambient air quality analysis

Modeling for SO<sub>2</sub> was included with the major amendment (IND20260001) to show compliance with 1-hour, and annual SO<sub>2</sub> National Ambient Air Quality Standards (NAAQS) and 1-, 3-, and 24-hour and annual SO<sub>2</sub> Minnesota Ambient Air Quality Standards (MAAQs). Modeled parameters for SO<sub>2</sub> are included in Attachment 6 to this TSD. The results of the NAAQS/MAAQs modeling for SO<sub>2</sub> are shown below in Table 8.

**Table 8. NAAQS/MAAQs Modeling Results**

| Pollutant       | Avg. Period | NAAQS standard (ug/m <sup>3</sup> ) | MAAQs standard (ug/m <sup>3</sup> ) | Modeled Result (ug/m <sup>3</sup> ) | % of NAAQS | % of MAAQS |
|-----------------|-------------|-------------------------------------|-------------------------------------|-------------------------------------|------------|------------|
| SO <sub>2</sub> | 1-hr        | 196.4                               | 197                                 | 131.93                              | 67%        | 67%        |
| SO <sub>2</sub> | 3-hr        |                                     | 1,310                               | 128.09                              |            | 10%        |
| SO <sub>2</sub> | 24-hr       |                                     | 367                                 | 78.55                               |            | 21%        |
| SO <sub>2</sub> | Annual      | 78.6                                | 79                                  | 7.78                                | 10%        | 10%        |

In 2025, MPCA formalized a new practice for determining when a NAAQS compliance demonstration is needed for facility changes. Generally, ongoing permit requirements that trigger remodeling are being removed in favor of a project-based analysis method that is completed during the permit application phase. This facility, in their 2018 modeling demonstration for 24-hour PM<sub>10</sub> NAAQS demonstrated impacts that were 87.7% of the standard. These results indicate that the facility is unlikely to exceed the 24-hour PM<sub>10</sub> standard even at maximum permitted emission rates. Based on this demonstration and facility actual emissions that are significantly lower than PTE (see Table 4), the MPCA has determined that re-modeling requirements are not necessary to maintain in the permit and these requirements have been removed with this permit action. Any permit amendment application with emission changes must include form CH-19 to determine if the ambient impacts of the proposed project require additional analysis. Modeling parameters for PM<sub>10</sub> from 2018 are listed in Attachment 6.

### 3.3 Ambient Air Boundary

In the air dispersion modeling analysis, the Permittee omitted receptors on portions of the facility property. These portions of the atmosphere accessible on the facility property are excluded from ambient air. Consistent with the US EPA December 2019 memo "Revised Policy On Exclusions from 'Ambient Air'", the Permittee uses fencing, signage, surveillance, and cameras. The permit requires the Permittee to comply with a general public preclusion plan, which must be maintained onsite. The Permittee must document any security breaches, as well as identify any security deficiencies and update the Plan accordingly to prevent future breaches. For these reasons, the MPCA has determined that the proposed preclusion methods are

reasonable and adequate, and that excluding certain modeling receptors located on the facility property is appropriate. Appendix F to the permit includes a map depicting the ambient air boundary, or “effective fence line.”

### 3.4 Performance testing history

Tables 9 and 10 show the performance tests for the Fluid Bed CE Stack, Hammermills #1-4, Grain Handling Pit #1 and Receiving Pit #2 for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, short-term throughput and pressure drop conducted since the last permit action 04500049-101.

**Table 9. Performance Test for Fluid Bed CE Stack (TREA 22) STRU 20**

| Parameter             | Test Date | Permit Limit                     | Test result                          |
|-----------------------|-----------|----------------------------------|--------------------------------------|
| PM                    | 7/23/2025 | 0.30 gr/dscf                     | 0.0044 gr/dscf (compliant)           |
| PM                    | 7/23/2025 | 2.74 lb/hr                       | 0.819 lb/hr (compliant)              |
| PM <sub>10</sub>      | 7/23/2025 | 2.74 lb/hr                       | 0.819 lb/hr (compliant)              |
| PM <sub>2.5</sub>     | 7/23/2025 | 2.74 lb/hr                       | 0.819 lb/hr (compliant)              |
| Short-term throughput | 7/23/2025 | ≤ 715 gal/min                    | 650 gal/min (compliant)              |
| Pressure drop         | 7/23/2025 | ≥ 0.01 ≤ 4.0 in H <sub>2</sub> O | 0.03 in H <sub>2</sub> O (compliant) |

**Table 10. Performance Tests for Hammermills #1-4 (TREAs 7-10), Grain Handling Pit #1 (TREA 15), and Receiving Pit #2 (TREA 11)**

| Parameter                       | Test Date     | Permit Limit                     | Test result                          |
|---------------------------------|---------------|----------------------------------|--------------------------------------|
| PM (TREA 7)                     | 10/15-18/2024 | 0.30 gr/dscf                     | 0.0004 gr/dscf (compliant)           |
| PM (TREA 7)                     | 10/15-18/2024 | 0.41 lb/hr                       | 0.032 lb/hr (compliant)              |
| PM <sub>10</sub> (TREA 7)       | 10/15-18/2024 | 0.410 lb/hr                      | 0.032 lb/hr (compliant)              |
| PM <sub>2.5</sub> (TREA 7)      | 10/15-18/2024 | 0.41 lb/hr                       | 0.032 lb/hr (compliant)              |
| Pressure drop (TREA 7)          | 10/15-18/2024 | ≥ 0.05 ≤ 4.0 in H <sub>2</sub> O | 0.20 in H <sub>2</sub> O (compliant) |
| PM (TREA 8)                     | 10/15-18/2024 | 0.30 gr/dscf                     | 0.0006 gr/dscf (compliant)           |
| PM (TREA 8)                     | 10/15-18/2024 | 0.41 lb/hr                       | 0.036 lb/hr (compliant)              |
| PM <sub>10</sub> (TREA 8)       | 10/15-18/2024 | 0.410 lb/hr                      | 0.036 lb/hr (compliant)              |
| PM <sub>2.5</sub> (TREA 8)      | 10/15-18/2024 | 0.41 lb/hr                       | 0.036 lb/hr (compliant)              |
| Pressure drop (TREA 8)          | 10/15-18/2024 | ≥ 0.05 ≤ 4.0 in H <sub>2</sub> O | 0.10 in H <sub>2</sub> O (compliant) |
| PM (TREA 9)                     | 10/15-18/2024 | 0.30 gr/dscf                     | 0.0005 gr/dscf (compliant)           |
| PM (TREA 9)                     | 10/15-18/2024 | 0.41 lb/hr                       | 0.036 lb/hr (compliant)              |
| PM <sub>10</sub> (TREA 9)       | 10/15-18/2024 | 0.410 lb/hr                      | 0.036 lb/hr (compliant)              |
| PM <sub>2.5</sub> (TREA 9)      | 10/15-18/2024 | 0.41 lb/hr                       | 0.036 lb/hr (compliant)              |
| Pressure drop (TREA 9)          | 10/15-18/2024 | ≥ 0.05 ≤ 4.0 in H <sub>2</sub> O | 0.12 in H <sub>2</sub> O (compliant) |
| PM (TREA 10)                    | 10/15-18/2024 | 0.30 gr/dscf                     | 0.0002 gr/dscf (compliant)           |
| PM (TREA 10)                    | 10/15-18/2024 | 0.41 lb/hr                       | 0.021 lb/hr (compliant)              |
| PM <sub>10</sub> (TREA 10)      | 10/15-18/2024 | 0.410 lb/hr                      | 0.021 lb/hr (compliant)              |
| PM <sub>2.5</sub> (TREA 10)     | 10/15-18/2024 | 0.41 lb/hr                       | 0.021 lb/hr (compliant)              |
| Pressure drop (TREA 10)         | 10/15-18/2024 | ≥ 0.05 ≤ 4.0 in H <sub>2</sub> O | 0.20 in H <sub>2</sub> O (compliant) |
| PM (TREA 11)                    | 10/15-18/2024 | 0.023 gr/dscf                    | 0.0020 gr/dscf (compliant)           |
| PM (TREA 11)                    | 10/15-18/2024 | 0.41 lb/hr                       | 0.188 lb/hr (compliant)              |
| PM <sub>10</sub> (TREA 11)      | 10/15-18/2024 | 0.410 lb/hr                      | 0.188 lb/hr (compliant)              |
| PM <sub>2.5</sub> (TREA 11)     | 10/15-18/2024 | 0.41 lb/hr                       | 0.188 lb/hr (compliant)              |
| Short-term throughput (TREA 11) | 10/15-18/2024 | ≤ 560 tph                        | 545 tph (compliant)                  |
| Pressure drop (TREA 11)         | 10/15-18/2024 | ≥ 0.05 ≤ 4.0 in H <sub>2</sub> O | 0.77 in H <sub>2</sub> O (compliant) |
| PM (TREA 15)                    | 10/15-18/2024 | 0.30 lb/hr                       | 0.0031 lb/hr (compliant)             |
| PM <sub>10</sub> (TREA 15)      | 10/15-18/2024 | 0.30 lb/hr                       | 0.0031 lb/hr (compliant)             |
| PM <sub>2.5</sub> (TREA 15)     | 10/15-18/2024 | 0.30 lb/hr                       | 0.0031 lb/hr (compliant)             |
| Short-term throughput (TREA 15) | 10/15-18/2024 | ≤ 420 tph                        | 412 tph (compliant)                  |
| Pressure drop (TREA 15)         | 10/15-18/2024 | ≥ 0.05 ≤ 4.0 in H <sub>2</sub> O | 0.30 in H <sub>2</sub> O (compliant) |

Based on the consistent results, the permit requires a testing frequency of every 5 years for the above listed pollutants.

### 3.5 Monitoring

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considered the following:

- the likelihood of the facility violating the applicable requirements;
- whether add-on controls are necessary to meet the emission limits;
- the variability of emissions over time;
- the type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- the technical and economic feasibility of possible periodic monitoring methods; and
- the kind of monitoring found on similar units elsewhere.

The Table below summarizes the monitoring requirements.

**Table 11. Monitoring**

| Subject Item* | Requirement (basis)                                                                                                | What is the monitoring? | Why is this monitoring adequate?                                                                                                           |
|---------------|--------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| TFAC 1        | Process Throughput <= 20.8 million gallons per year 12-month rolling sum of brewery waste [Avoid PSD major source] | Recordkeeping           | Daily and monthly records of brewery waste based on flowmeters are adequate to ensure continuous compliance with this limit.               |
|               | Process Throughput <= 375 trucks per day daily maximum for grain delivery. [Title V modeling]                      | Recordkeeping           | Daily records of grain trucks based on loadout receipts are adequate to ensure continuous compliance with this limit.                      |
|               | Process Throughput <= 221,920 tons per year 12-month rolling sum of DDGS and MDGS [Avoid PSD major source]         | Recordkeeping           | Daily and monthly records of DDGS and MDGS loadout based on loadout receipts are adequate to ensure continuous compliance with this limit. |



| <b>Subject Item*</b>               | <b>Requirement (basis)</b>                                                                                                                         | <b>What is the monitoring?</b>                     | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                                   |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                    | Process Throughput <= 4.000 million gallons per year 12-month rolling sum of denaturant [Avoid PSD major source, Avoid NESHAP]                     | Recordkeeping                                      | Daily and monthly records of denaturant throughput based on flowmeters is adequate to ensure continuous compliance with this limit.                                                                                                                                                                       |
|                                    | Process Throughput <= 814,600 tons per year 12-month rolling sum of grain received [Title V modeling, Avoid PSD major source]                      | Recordkeeping                                      | Daily and monthly records of grain received based on grain receipts are adequate to ensure continuous compliance with this limit.                                                                                                                                                                         |
|                                    | Production <= 80.000 million gallons per year 12-month rolling sum of undenatured ethanol [Title V modeling, Avoid PSD major source, Avoid NESHAP] | Recordkeeping                                      | Daily and monthly records of undenatured ethanol production based on flowmeters are adequate to ensure continuous compliance with this limit.                                                                                                                                                             |
| COMG 4 - Boiler and Dryer Fuel Use | Nitrogen Oxides <= 65.3 tons per year 52-week rolling sum [Consent Decree]                                                                         | Fuel use recordkeeping, NOx emissions calculations | Members of COMG 4 have a NOx cap based on a 12-month rolling sum. This is adequate because fuel use is tracked weekly as required by Consent Decree. NOx emissions are determined by multiplying fuel combusted by the emission factor, as determined from the most recent performance test for the unit. |
| COMG 12 - Grain Milling            | Process Throughput <= 81 tons per hour 3-hour average [Title V modeling, Avoid PSD major source]                                                   | Throughput monitoring                              | Flour is a short-term process throughput limit. Compliance with the limit ensures continuous compliance. Throughput is calculated based on velocity and density measurements of water sources and the slurry density. Flour throughput is from all hammermills.                                           |
| COMG 13 - HAP Limit                | Acetaldehyde <= 8.9 tons per year 12-month rolling sum [Avoid NESHAP]                                                                              | Recordkeeping                                      | Recordkeeping of single HAP usage based on hours of operation, fuel use, and emission factors suffice to meet this limit.                                                                                                                                                                                 |
|                                    | HAPs - Total <= 20.7 tons per year 12-month rolling sum [Avoid NESHAP]                                                                             | Recordkeeping                                      | Recordkeeping of total HAP usage based on hours of operation, fuel use, and emission factors suffice to meet this limit.                                                                                                                                                                                  |

| <b>Subject Item*</b>            | <b>Requirement (basis)</b>                                                                                                                         | <b>What is the monitoring?</b> | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                              |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMG 14 - Fermentation Scrubber | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot [IPER]                                                                           | None                           | As there are no particulate emissions with this process, it is highly unlikely this limit will be exceeded.                                                                                                                                                                          |
|                                 | Opacity $\leq$ 20 percent opacity [IPER]                                                                                                           | None                           | As there are no particulate emissions with this process, it is highly unlikely this limit will be exceeded.                                                                                                                                                                          |
|                                 | Operating Hours $\leq$ 1,000 hours per year when venting COMG 14 members directly to atmosphere. [Avoid PSD major source & modification]           | Recordkeeping                  | Recordkeeping of the hours of operation when emissions vent directly to the atmosphere on a daily basis assures compliance with this limit.                                                                                                                                          |
|                                 | Volatile Organic Compounds $\leq$ 12.0 pounds per hour 3-hour average as total mass of VOC [Consent Decree, Avoid PSD major source & modification] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires VOC testing every 60 months. |
|                                 | Process Throughput $\leq$ 715 gallons per minute 3-hour average [AOS, Avoid PSD major source & modification, Avoid NESHAP]                         | Recordkeeping                  | Daily recordkeeping and calculation of beer feed throughput based on beer feed rate to the distillation process assures compliance with this limit. COMG 14 Operating Scenarios 1 & 2, TREA 19 Operating Scenarios 1 & 2.                                                            |
|                                 | Process Throughput $\leq$ 715 gallons per minute 3-hour average [AOS, Avoid PSD major source & modification, Avoid NESHAP]                         | Recordkeeping                  | Daily recordkeeping and calculation of beer feed throughput based on beer feed rate to the distillation process assures compliance with this limit. COMG 14 Operating Scenarios 3 & 4, TREA 25 Operating Scenarios 3 & 4.                                                            |

| <b>Subject Item*</b>            | <b>Requirement (basis)</b>                                                                                                          | <b>What is the monitoring?</b> | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | Process Throughput <= 715 gallons per minute 3-hour average [AOS, Avoid PSD major source & modification, Avoid NESHAP]              | Recordkeeping                  | Daily recordkeeping and calculation of beer feed throughput based on beer feed rate to the distillation process assures compliance with this limit. COMG 14 Operating Scenario 4, TREA 25 Operating Scenario 2.                                                                                                                                                                                                                                              |
| COMG 15 - Distillation Scrubber | Volatile Organic Compounds <= 1.5 pounds per hour 3-hour block average as total mass of VOC [Avoid PSD major source & modification] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires VOC testing every 60 months.                                                                                                                                                                         |
|                                 | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                                                                | None                           | As there are no particulate emissions with this process, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                                                                                                                                                                                  |
|                                 | Opacity <= 20 percent opacity [IPER]                                                                                                | None                           | As there are no particulate emissions with this process, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                                                                                                                                                                                  |
|                                 | Process Throughput <= 715 gallons per minute 3-hour average [Avoid PSD major source & modification, Avoid NESHAP]                   | Recordkeeping                  | Daily recordkeeping and calculation of beer feed throughput based on beer feed rate to the distillation process assures compliance with this limit.                                                                                                                                                                                                                                                                                                          |
|                                 | Process Throughput <= 135.4 gallons per minute 3-hour average [Avoid PSD major source & modification, Avoid NESHAP]                 | Recordkeeping                  | Daily recordkeeping and calculation of beer feed throughput based on feed rate to ethanol storage assures compliance with this limit.                                                                                                                                                                                                                                                                                                                        |
| COMG 16 - NSPS DD Storage Bins  | The Permittee shall limit Particulate Matter <= 0.01 grains per dry standard cubic foot. [40 CFR pt. 60, subp. DD]                  | One-time performance testing   | 40 CFR pt. 60, subp. DD is a pre-November 15, 1990, standard and does not provide for adequate monitoring for PM requirements. Therefore, additional monitoring is included in the permit. Ongoing performance testing is adequate to have a reasonable assurance of compliance.<br><br>This permit requires a one-time test due 180 days after permit issuance to measure PM emissions to comply with the applicable standard from 40 CFR pt. 60, subp. DD. |

| Subject Item*       | Requirement (basis)                                                                                              | What is the monitoring?                                                               | Why is this monitoring adequate?                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Opacity <= 0 percent opacity [40 CFR pt. 60, subp. DD]                                                           | One-time performance testing                                                          | 40 CFR pt. 60, subp. DD is a pre-November 15, 1990, standard and does not provide for adequate monitoring for opacity requirements. Therefore, additional monitoring is included in the permit. Ongoing performance testing is adequate to have a reasonable assurance of compliance.<br><br>This permit requires a one-time test due 180 days after permit issuance to measure opacity to comply with the applicable standard from 40 CFR pt. 60, subp. DD. |
| COMG 17 - DDGS Silo | Particulate Matter <= 0.070 pounds per hour 3-hour average [Avoid PSD major source & modification]               | Performance testing                                                                   | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing 180 days after permit issuance.                                                                                                                                                           |
|                     | PM < 10 micron <= 0.070 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification] | Performance testing                                                                   | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing 180 days after permit issuance.                                                                                                                                             |
|                     | PM < 2.5 micron <= 0.070 pounds per hour 3-hour average [Avoid PSD major source & modification]                  | Performance testing                                                                   | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing 180 days after permit issuance.                                                                                                                                            |
|                     | Sulfur Dioxide <= 0.42 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source]                 | Performance testing                                                                   | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires SO <sub>2</sub> testing 180 days after permit issuance.                                                                                                                                              |
|                     | Opacity <= 10 percent opacity [Minn. R. 7011.1005, subp. 3(D)]                                                   | None                                                                                  | Since all members of COMG 17 are required to vent to a fabric filter (TREA 20) the likelihood of violating this limit is small.                                                                                                                                                                                                                                                                                                                              |
|                     | Particulate Matter >= 80 percent collection efficiency [Minn. R. 7011.1005, subp. 3(E)]                          | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Emissions must vent to a fabric filter (TREA 20) prior to being vented out STRU 17. Proper operation of the control equipment is adequate to show continuous compliance with the limit.                                                                                                                                                                                                                                                                      |

| <b>Subject Item*</b>            | <b>Requirement (basis)</b>                                                                                            | <b>What is the monitoring?</b>                | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                            |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | Process Throughput <= 715 gallons per minute 3-hour block average [Avoid PSD major source & modification]             | Recordkeeping                                 | Daily recordkeeping and calculation of beer feed throughput based on beer feed rate to the distillation process assures compliance with this limit.                                                                                                                                                |
| COMG 18 - Grain Handling Pit #1 | Particulate Matter <= 0.30 pounds per hour 3-hour block average [Avoid PSD major source & modification]               | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 60 months.                |
|                                 | PM < 10 micron <= 0.30 pounds per hour 3-hour block average [Title V modeling, Avoid PSD major source & modification] | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 60 months.  |
|                                 | PM < 2.5 micron <= 0.30 pounds per hour 3-hour average [Avoid PSD major source & modification]                        | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 60 months. |
|                                 | Opacity <= 10 percent opacity [Minn. R. 7011.1005, subp. 3(D)]                                                        | Required to vent to a fabric filter (TREA 15) | Since all members of COMG 18 are required to vent to a fabric filter (TREA 15) the likelihood of violating this limit is small.                                                                                                                                                                    |
|                                 | Process Throughput <= 420 tons per hour 3-hour block average [Avoid PSD major source & modification]                  | Recordkeeping                                 | Daily recordkeeping and calculation of grain throughput based on grain receipts assures compliance with this limit.                                                                                                                                                                                |
| COMG 19 - Receiving Pit #2      | Particulate Matter <= 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]                    | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 60 months.                |

| <b>Subject Item*</b>                | <b>Requirement (basis)</b>                                                                                          | <b>What is the monitoring?</b> | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                            |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | PM < 10 micron<br><= 0.410 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 60 months.  |
|                                     | PM < 2.5 micron<br><= 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]                  | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 60 months. |
|                                     | Process Throughput <= 560 tons per hour 3-hour block average [Avoid PSD major source & modification]                | Recordkeeping                  | Daily recordkeeping and calculation of grain throughput based on grain receipts assures compliance with this limit.                                                                                                                                                                                |
| COMG 20 - Centrifuges to Atmosphere | Operating Hours <= 500 hours per year [Avoid PSD major source & modification]                                       | Recordkeeping                  | Recordkeeping of hours vented to atmosphere via STRU 41 assures compliance with this limit.                                                                                                                                                                                                        |
| COMG 21 - 3-Chambered RTO           | Particulate Matter <= 12.0 pounds per hour 3-hour average [Avoid PSD major source & modification]                   | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 60 months.                |
|                                     | PM < 10 micron<br><= 12.0 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification]  | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 60 months.  |
|                                     | PM < 2.5 micron<br><= 12.0 pounds per hour 3-hour average [Avoid PSD major source & modification]                   | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 60 months. |

| <b>Subject Item*</b> | <b>Requirement (basis)</b>                                                                                                                  | <b>What is the monitoring?</b> | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                                                                                                      |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | Volatile Organic Compounds <= 12.0 pounds per hour 12-month rolling average as mass [Consent Decree, Avoid PSD major source & modification] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires VOC testing every 60 months.                                                                                         |
|                      | Carbon Monoxide <= 100 parts per million or 90 percent reduction [Consent Decree, Avoid PSD major source & modification]                    | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires CO testing every 60 months.                                                                                          |
|                      | Carbon Monoxide <= 13.1 pounds per hour 3-hour average [Avoid PSD major source & modification]                                              | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires CO testing every 60 months.                                                                                          |
|                      | Sulfur Dioxide <= 50.0 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification]                             | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires SO <sub>2</sub> testing every 60 months.                                                                             |
|                      | Nitrogen Oxides emission factor testing [Avoid PSD major source & modification]                                                             | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires NO <sub>x</sub> testing every 120 months to verify the 0.066 lb NO <sub>x</sub> /MMBtu emission factor from STRU 22. |
|                      | HAPs Single testing [Avoid NESHAP]                                                                                                          | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires HAPs Single testing every 60 months.                                                                                 |
|                      | Opacity <= 20 percent opacity with exceptions [Minn. R. 7011.0610, subp. 1(A)(2)]                                                           | None                           | The unit uses natural gas, therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that this unit will continue to operate such that emissions are well below the emission limits by only burning natural gas.                                                                                                     |

| <b>Subject Item*</b> | <b>Requirement (basis)</b>                                                                                              | <b>What is the monitoring?</b>      | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                                                                                                      |
|----------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | Sulfur Dioxide <= 2.0 pounds per million Btu [Minn. R. 7011.0610, subp. 2]                                              | None                                | The unit uses natural gas, therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that this unit will continue to operate such that emissions are well below the emission limits by only burning natural gas. The potential to emit from the unit is 0.0006 lb/MMBtu due to equipment design and allowable fuels. |
|                      | Particulate Matter <= 0.30 grains per dry standard cubic foot [Minn. R. 7011.0610, subp. 1(A)(1)]                       | None                                | The unit uses natural gas, therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that this unit will continue to operate such that emissions are well below the emission limits by only burning natural gas. The potential to emit from the unit is 0.0075 lb/MMBtu due to equipment design and allowable fuels. |
|                      | Opacity <= 20 percent opacity [IPER]                                                                                    | See TREA 14 for specific monitoring | Other limits at TREA 14 (and associated monitoring) ensure that this applicable requirement is being met. These other operational limits give this unit a PTE of 0.0448 gr/dscf. Applicable rule limit at maximum airflow is 0.30 gr/dscf.                                                                                                                                   |
|                      | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                                                    | See TREA 14 for specific monitoring | Other limits at TREA 14 (and associated monitoring) ensure that this applicable requirement is being met. These other operational limits give this unit a PTE of 0.0448 gr/dscf. Applicable rule limit at maximum airflow is 0.30 gr/dscf.                                                                                                                                   |
|                      | Process Throughput <= 715 gallons per minute 3-hour block average [Avoid PSD major source & modification, Avoid NESHAP] | Recordkeeping                       | Daily recordkeeping and calculation of beer feed throughput based on beer feed rate to the distillation process assures compliance with this limit.                                                                                                                                                                                                                          |
|                      | Process Throughput <= 142.3 gallons per minute 3-hour average [Avoid PSD major source & modification, Avoid NESHAP]     | Recordkeeping                       | Daily recordkeeping and calculation of ethanol production throughput based on feed rate to ethanol storage assures compliance with this limit.                                                                                                                                                                                                                               |
| COMG 22 - RTO 2      | Particulate Matter <= 13.5 pounds per hour 3-hour average [Avoid PSD major source & modification]                       | Performance testing                 | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing 180 days after initial startup.                                                                           |



| <b>Subject Item*</b> | <b>Requirement (basis)</b>                                                                                                                  | <b>What is the monitoring?</b> | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | PM < 10 micron<br><= 13.5 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification]                          | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing 180 days after initial startup.                                                                               |
|                      | PM < 2.5 micron<br><= 13.5 pounds per hour 3-hour average [Avoid PSD major source & modification]                                           | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing 180 days after initial startup.                                                                              |
|                      | Volatile Organic Compounds <= 12.0 pounds per hour 12-month rolling average as mass [Consent Decree, Avoid PSD major source & modification] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires VOC testing 180 days after initial startup.                                                                                            |
|                      | Carbon Monoxide <= 100 parts per million or 90 percent reduction [Consent Decree, Avoid PSD major source & modification]                    | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires CO testing 180 days after initial startup.                                                                                             |
|                      | Carbon Monoxide <= 13.1 pounds per hour 3-hour average [Avoid PSD major source & modification]                                              | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires CO testing 180 days after initial startup.                                                                                             |
|                      | Sulfur Dioxide <= 50.0 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification]                             | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires SO <sub>2</sub> testing 180 days after initial startup.                                                                                |
|                      | Nitrogen Oxides emission factor testing [Avoid PSD major source & modification]                                                             | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires NO <sub>x</sub> testing due 180 days after initial startup to verify the 0.066 lb NO <sub>x</sub> /MMBtu emission factor from STRU 57. |

| Subject Item* | Requirement (basis)                                                                                                     | What is the monitoring?             | Why is this monitoring adequate?                                                                                                                                                                                                                                                                                                                                             |
|---------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | HAPs Single testing [Avoid NESHAP]                                                                                      | Performance testing                 | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires HAPs Single testing 180 days after initial startup.                                                                  |
|               | Opacity <= 20 percent opacity with exceptions [Minn. R. 7011.0610, subp. 1(A)(2)]                                       | None                                | The unit uses natural gas, therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that this unit will continue to operate such that emissions are well below the emission limits by only burning natural gas.                                                                                                     |
|               | Sulfur Dioxide <= 2.0 pounds per million Btu [Minn. R. 7011.0610, subp. 2]                                              | None                                | The unit uses natural gas, therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that this unit will continue to operate such that emissions are well below the emission limits by only burning natural gas. The potential to emit from the unit is 0.0006 lb/MMBtu due to equipment design and allowable fuels. |
|               | Particulate Matter <= 0.30 grains per dry standard cubic foot [Minn. R. 7011.0610, subp. 1(A)(1)]                       | None                                | The unit uses natural gas, therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that this unit will continue to operate such that emissions are well below the emission limits by only burning natural gas. The potential to emit from the unit is 0.0075 lb/MMBtu due to equipment design and allowable fuels. |
|               | Opacity <= 20 percent opacity [IPER]                                                                                    | See TREA 27 for specific monitoring | Other limits at TREA 27 (and associated monitoring) ensure that this applicable requirement is being met. These other operational limits give this unit a PTE of 0.0448 gr/dscf. Applicable rule limit at maximum airflow is 0.30 gr/dscf.                                                                                                                                   |
|               | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                                                    | See TREA 27 for specific monitoring | Other limits at TREA 27 (and associated monitoring) ensure that this applicable requirement is being met. These other operational limits give this unit a PTE of 0.0448 gr/dscf. Applicable rule limit at maximum airflow is 0.30 gr/dscf.                                                                                                                                   |
|               | Process Throughput <= 715 gallons per minute 3-hour block average [Avoid PSD major source & modification, Avoid NESHAP] | Recordkeeping                       | Daily recordkeeping and calculation of beer feed throughput based on beer feed rate to the distillation process assures compliance with this limit.                                                                                                                                                                                                                          |
|               | Process Throughput <= 142.3 gallons per minute 3-hour average [Avoid PSD major source & modification, Avoid NESHAP]     | Recordkeeping                       | Daily recordkeeping and calculation of ethanol production throughput based on feed rate to ethanol storage assures compliance with this limit.                                                                                                                                                                                                                               |

| <b>Subject Item*</b>    | <b>Requirement (basis)</b>                                                                                       | <b>What is the monitoring?</b> | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMG 23 - Hammermill #1 | Particulate Matter <= 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]               | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 60 months.                |
|                         | PM < 10 micron <= 0.410 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 60 months.  |
|                         | PM < 2.5 micron <= 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]                  | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 60 months. |
|                         | Opacity <= 20 percent opacity [IPER]                                                                             | None                           | The emissions are controlled by a fabric filter (TREA 7) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                               |
|                         | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                                             | None                           | The emissions are controlled by a fabric filter (TREA 7) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                               |
|                         | Process Throughput <= 81.7 tons per hour 3-hour average [Avoid PSD major source & modification]                  | Recordkeeping                  | Daily recordkeeping and calculation of grain throughput based on grain receipts assures compliance with this limit.                                                                                                                                                                                |
| COMG 24 - Hammermill #2 | Particulate Matter <= 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]               | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 60 months.                |
|                         | PM < 10 micron <= 0.410 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 60 months.  |

| Subject Item*           | Requirement (basis)                                                                                                | What is the monitoring? | Why is this monitoring adequate?                                                                                                                                                                                                                                                                   |
|-------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | PM < 2.5 micron<br>≤ 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]                  | Performance testing     | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 60 months. |
|                         | Opacity ≤ 20 percent opacity [IPER]                                                                                | None                    | The emissions are controlled by a fabric filter (TREA 8) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                               |
|                         | Particulate Matter ≤ 0.30 grains per dry standard cubic foot [IPER]                                                | None                    | The emissions are controlled by a fabric filter (TREA 8) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                               |
|                         | Process Throughput ≤ 81.7 tons per hour 3-hour average [Avoid PSD major source & modification]                     | Recordkeeping           | Daily recordkeeping and calculation of grain throughput based on grain receipts assures compliance with this limit.                                                                                                                                                                                |
| COMG 25 - Hammermill #3 | Particulate Matter ≤ 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]                  | Performance testing     | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 60 months.                |
|                         | PM < 10 micron<br>≤ 0.410 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification] | Performance testing     | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 60 months.  |
|                         | PM < 2.5 micron<br>≤ 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]                  | Performance testing     | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 60 months. |
|                         | Opacity ≤ 20 percent opacity [IPER]                                                                                | None                    | The emissions are controlled by a fabric filter (TREA 9) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                               |
|                         | Particulate Matter ≤ 0.30 grains per dry standard cubic foot [IPER]                                                | None                    | The emissions are controlled by a fabric filter (TREA 9) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                               |

| <b>Subject Item*</b>    | <b>Requirement (basis)</b>                                                                                       | <b>What is the monitoring?</b> | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Process Throughput <= 81.7 tons per hour 3-hour average [Avoid PSD major source & modification]                  | Recordkeeping                  | Daily recordkeeping and calculation of grain throughput based on grain receipts assures compliance with this limit.                                                                                                                                                                                |
| COMG 26 - Hammermill #4 | Particulate Matter <= 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]               | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 60 months.                |
|                         | PM < 10 micron <= 0.410 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 60 months.  |
|                         | PM < 2.5 micron <= 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]                  | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 60 months. |
|                         | Opacity <= 20 percent opacity [IPER]                                                                             | None                           | The emissions are controlled by a fabric filter (TREA 10) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                              |
|                         | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                                             | None                           | The emissions are controlled by a fabric filter (TREA 10) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                              |
|                         | Process Throughput <= 81.7 tons per hour 3-hour average [Avoid PSD major source & modification]                  | Recordkeeping                  | Daily recordkeeping and calculation of grain throughput based on grain receipts assures compliance with this limit.                                                                                                                                                                                |
| COMG 27 - Hammermill #5 | Particulate Matter <= 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]               | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing 180 days after initial startup. |

| Subject Item*                  | Requirement (basis)                                                                                                 | What is the monitoring?                           | Why is this monitoring adequate?                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | PM < 10 micron<br><= 0.410 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source & modification] | Performance testing                               | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing 180 days after initial startup.                                                                                                                                            |
|                                | PM < 2.5 micron<br><= 0.410 pounds per hour 3-hour average [Avoid PSD major source & modification]                  | Performance testing                               | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing 180 days after initial startup.                                                                                                                                           |
|                                | Opacity <= 20 percent opacity [IPER]                                                                                | None                                              | The emissions are controlled by a fabric filter (TREA 26) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                                                                                                                                                                                       |
|                                | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                                                | None                                              | The emissions are controlled by a fabric filter (TREA 26) with a controlled emission rate of 0.003 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                                                                                                                                                                                       |
|                                | Process Throughput <= 81.7 tons per hour 3-hour average [Avoid PSD major source & modification]                     | Recordkeeping                                     | Daily recordkeeping and calculation of grain throughput based on grain receipts assures compliance with this limit.                                                                                                                                                                                                                                                                                                                                         |
| EQUI 1 - Grain Receiving Pit 1 | Opacity <= 5 percent opacity [40 CFR pt. 60, subp. DD]                                                              | One-time performance testing                      | 40 CFR pt. 60, subp. DD is a pre-November 15, 1990, standard and does not provide for adequate monitoring for opacity requirements. Therefore, additional monitoring is included in the permit. Ongoing performance testing is adequate to have a reasonable assurance of compliance<br><br>This permit requires a one-time test due 180 days after permit issuance to measure opacity to comply with the applicable standard from 40 CFR pt. 60, subp. DD. |
| EQUI 5 - DDGS Storage Building | Opacity <= 5 percent opacity [Minn. R. 7011.1005, subp. 3(A)]                                                       | Daily VE checks, recordkeeping, corrective action | Daily visible emissions checks assures compliance with this limit.                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 8 - DDGS Loadout Elevator | Opacity <= 5 percent opacity [Minn. R. 7011.1005, subp. 3(A)]                                                       | Daily VE checks, recordkeeping, corrective action | Daily visible emissions checks assures compliance with this limit.                                                                                                                                                                                                                                                                                                                                                                                          |

| <b>Subject Item*</b>       | <b>Requirement (basis)</b>                                                                                                        | <b>What is the monitoring?</b> | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                                         |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EQUI 9 - Boiler #1         | Sulfur Dioxide <= 0.043 pounds per hour 3-hour average [Title V modeling]                                                         | Recordkeeping                  | Recordkeeping of fuel combusted in the boiler. The boiler is limited to natural gas only. If the unit burns only natural gas it is unlikely the limit will be exceeded.                                                                                                                                         |
| EQUI 14 - Boiler #2        | Sulfur Dioxide <= 0.037 pounds per hour 3-hour average [Title V modeling]                                                         | Recordkeeping                  | Recordkeeping of fuel combusted in the boiler. The boiler is limited to natural gas only. If the unit burns only natural gas it is unlikely the limit will be exceeded.                                                                                                                                         |
| EQUI 23 - Fluid Bed Cooler | Volatile Organic Compounds <= 8.0 pounds per hour 3-hour block average as total mass VOC [Consent Decree, Avoid PSD major source] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires VOC testing every 60 months.                            |
|                            | Particulate Matter <= 2.74 pounds per hour 3-hour average [Avoid PSD major source]                                                | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 36 months.                             |
|                            | PM < 10 micron <= 2.74 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source]                                  | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 36 months.               |
|                            | PM < 2.5 micron <= 2.74 pounds per hour 3-hour average [Avoid PSD major source]                                                   | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 36 months.              |
|                            | Sulfur Dioxide <= 0.84 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source]                                  | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires SO <sub>2</sub> testing 180 days after permit issuance. |
|                            | Opacity <= 20 percent opacity. [IPER]                                                                                             | None                           | The emissions are controlled by a fabric filter (TREA 22) with a controlled emission rate of 0.006 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                                           |

| <b>Subject Item*</b>                | <b>Requirement (basis)</b>                                                                 | <b>What is the monitoring?</b>                    | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                       | None                                              | The emissions are controlled by a fabric filter (TREA 22) with a controlled emission rate of 0.006 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                                                                                                                                                                                       |
|                                     | Process Throughput <= 715 gallons per minute 3-hour block average [Avoid PSD major source] | Recordkeeping                                     | Daily recordkeeping and calculation of beer feed throughput assures compliance with this limit.                                                                                                                                                                                                                                                                                                                                                             |
| EQUI 28 - Grain Receiving Pit 2     | Opacity <= 5 percent opacity [40 CFR pt. 60, subp. DD]                                     | One-time performance testing                      | 40 CFR pt. 60, subp. DD is a pre-November 15, 1990, standard and does not provide for adequate monitoring for opacity requirements. Therefore, additional monitoring is included in the permit. Ongoing performance testing is adequate to have a reasonable assurance of compliance<br><br>This permit requires a one-time test due 180 days after permit issuance to measure opacity to comply with the applicable standard from 40 CFR pt. 60, subp. DD. |
| EQUI 67 - Ethanol Loading Rack #1   | Opacity <= 20 percent opacity [IPER]                                                       | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                                                                                                                                                                                    |
|                                     | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                       | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                                                                                                                                                                                    |
| EQUI 71 - Ethanol Loading Rack #2   | Opacity <= 20 percent opacity [IPER]                                                       | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                                                                                                                                                                                    |
|                                     | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                       | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                                                                                                                                                                                    |
| EQUI 177 - DDGS Reclaim Pit         | Opacity <= 5 percent opacity [Minn. R. 7011.1005, subp. 3(A)]                              | Daily VE checks, recordkeeping, corrective action | Daily visible emissions checks assures compliance with this limit.                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 179 - DDGS Truck Loadout Spout | Opacity <= 10 percent opacity [Minn. R. 7011.1005, subp. 3(B)]                             | Daily VE checks, recordkeeping, corrective action | Daily visible emissions checks assures compliance with this limit.                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 195 - Whole Stillage Tank      | Opacity <= 20 percent opacity [IPER]                                                       | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                                                                                                                                                                                    |



| <b>Subject Item*</b>                       | <b>Requirement (basis)</b>                                                              | <b>What is the monitoring?</b>                    | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                    |
|--------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                            | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot [IPER]                | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                   |
| EQUI 196 - Thin Stillage Tank              | Opacity $\leq$ 20 percent opacity [IPER]                                                | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                   |
|                                            | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot [IPER]                | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                   |
| EQUI 197 - Syrup Tank #1                   | Opacity $\leq$ 20 percent opacity [IPER]                                                | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                   |
|                                            | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot [IPER]                | None                                              | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                   |
| EQUI 199 - DDGS Flat Storage Conveyor      | Opacity $\leq$ 5 percent opacity [Minn. R. 7011.1005, subp. 3(A)]                       | Daily VE checks, recordkeeping, corrective action | Daily visible emissions checks assures compliance with this limit. These requirements are at EQUI 177.                                                                                                                                                                                     |
| EQUI 200 - DDGS Reclaim Pit Conveyor       | Opacity $\leq$ 5 percent opacity [Minn. R. 7011.1005, subp. 3(A)]                       | Daily VE checks, recordkeeping, corrective action | Daily visible emissions checks assures compliance with this limit. These requirements are at EQUI 177.                                                                                                                                                                                     |
| EQUI 201 - DDGS Truck Loadout Pit Conveyor | Opacity $\leq$ 5 percent opacity [Minn. R. 7011.1005, subp. 3(A)]                       | Daily VE checks, recordkeeping, corrective action | Daily visible emissions checks assures compliance with this limit. These requirements are at EQUI 177.                                                                                                                                                                                     |
| EQUI 202 - DDGS Portable Container Loadout | Opacity $\leq$ 10 percent opacity [Minn. R. 7011.1005, subp. 3(B)]                      | Daily VE checks, recordkeeping, corrective action | Daily visible emissions checks assures compliance with this limit. These requirements are at EQUI 177.                                                                                                                                                                                     |
| EQUI 204 - Flour Receiver                  | Particulate Matter $\leq$ 0.140 pounds per hour 3-hour average [Avoid PSD major source] | Performance testing                               | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing 180 days after startup. |

| Subject Item* | Requirement (basis)                                                                                          | What is the monitoring?                       | Why is this monitoring adequate?                                                                                                                                                                                                                                                                          |
|---------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | Particulate Matter $\leq 0.0040$ grains per dry standard cubic foot [Avoid PSD major source]                 | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing 180 days after startup.                |
|               | PM $< 10$ micron $\leq 0.140$ pounds per hour 3-hour average [Title V modeling, Avoid PSD major source]      | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing 180 days after startup.  |
|               | PM $< 10$ micron $\leq 0.0040$ grains per dry standard cubic foot [Title V modeling, Avoid PSD major source] | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing 180 days after startup.  |
|               | PM $< 2.5$ micron $\leq 0.140$ pounds per hour 3-hour average [Avoid PSD major source]                       | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing 180 days after startup. |
|               | PM $< 2.5$ micron $\leq 0.0040$ grains per dry standard cubic foot [Avoid PSD major source]                  | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing 180 days after startup. |
|               | Opacity $\leq 20$ percent opacity [IPER]                                                                     | None                                          | The potential to emit from this unit is 0.004 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                                                                                          |
|               | Particulate Matter $\leq 0.30$ grains per dry standard cubic foot [IPER]                                     | None                                          | The potential to emit from this unit is 0.004 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                                                                                          |
|               | Process Throughput $\leq 81.7$ tons per hour 3-hour average [Title V modeling, Avoid PSD major source]       | Flow monitoring records, density measurements | Maintaining continuous volumetric flow and density measurements to demonstrate continuous compliance with the limit.                                                                                                                                                                                      |

| <b>Subject Item*</b>                | <b>Requirement (basis)</b>                                                                                   | <b>What is the monitoring?</b> | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                           |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | Pressure Drop $\geq$ 0.05 and $\leq$ 6.0 inches of water column [Avoid PSD major source]                     | Daily pressure drop readings   | Daily pressure drop monitoring ensures the fabric filter is properly operated and maintained.                                                                                                                                                                                                     |
| EQUI 211 - Syrup Tank #2            | Opacity $\leq$ 20 percent opacity [IPER]                                                                     | None                           | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                          |
|                                     | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot [IPER]                                     | None                           | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                          |
| EQUI 212 - Corrosion Inhibitor Tank | Opacity $\leq$ 20 percent opacity [IPER]                                                                     | None                           | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                          |
|                                     | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot [IPER]                                     | None                           | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                          |
| EQUI 213 - Flour Receiver           | Particulate Matter $\leq$ 0.140 pounds per hour 3-hour average [Avoid PSD major source]                      | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 60 months.               |
|                                     | Particulate Matter $\leq$ 0.0040 grains per dry standard cubic foot [Avoid PSD major source]                 | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM testing every 60 months.               |
|                                     | PM $<$ 10 micron $\leq$ 0.140 pounds per hour 3-hour average [Title V modeling, Avoid PSD major source]      | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 60 months. |
|                                     | PM $<$ 10 micron $\leq$ 0.0040 grains per dry standard cubic foot [Title V modeling, Avoid PSD major source] | Performance testing            | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>10</sub> testing every 60 months. |

| <b>Subject Item*</b>    | <b>Requirement (basis)</b>                                                                        | <b>What is the monitoring?</b>                | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                                                                                            |
|-------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | PM < 2.5 micron<br>≤ 0.140 pounds per hour 3-hour average [Avoid PSD major source]                | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 60 months. |
|                         | PM < 2.5 micron<br>≤ 0.0040 grains per dry standard cubic foot [Avoid PSD major source]           | Performance testing                           | Testing frequencies are typically set at 12, 36, or 60-month increments. Past test results, applicable rules, potential emissions, location of source, and past compliance history play a factor in setting the testing frequency. This permit requires PM <sub>2.5</sub> testing every 60 months. |
|                         | Opacity ≤ 20 percent opacity [IPER]                                                               | None                                          | The potential to emit from this unit is 0.004 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                                                                                   |
|                         | Particulate Matter ≤ 0.30 grains per dry standard cubic foot [IPER]                               | None                                          | The potential to emit from this unit is 0.004 gr/dscf. Therefore, the likelihood of violating this limit is very small and no additional monitoring is required.                                                                                                                                   |
|                         | Process Throughput ≤ 81.7 tons per hour 3-hour average [Title V modeling, Avoid PSD major source] | Flow monitoring records, density measurements | Maintaining continuous volumetric flow and density measurements to demonstrate continuous compliance with the limit.                                                                                                                                                                               |
|                         | Pressure Drop ≥ 0.05 and ≤ 6.0 inches of water column [Avoid PSD major source]                    | Daily pressure drop readings                  | Daily pressure drop monitoring ensures the fabric filter is properly operated and maintained.                                                                                                                                                                                                      |
| EQUI 214 - Centrifuge 1 | Opacity ≤ 20 percent opacity [IPER]                                                               | None                                          | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                           |
|                         | Particulate Matter ≤ 0.30 grains per dry standard cubic foot [IPER]                               | None                                          | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                           |
| EQUI 215 - Centrifuge 2 | Opacity ≤ 20 percent opacity [IPER]                                                               | None                                          | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                           |
|                         | Particulate Matter ≤ 0.30 grains per dry standard cubic foot [IPER]                               | None                                          | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                                                                                           |

| <b>Subject Item*</b>                  | <b>Requirement (basis)</b>                                                                                                                              | <b>What is the monitoring?</b>                                               | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EQUI 216 - Centrifuge 3               | Opacity <= 20 percent opacity [IPER]                                                                                                                    | None                                                                         | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                      |
|                                       | Particulate Matter <= 0.30 grains per dry standard cubic foot [IPER]                                                                                    | None                                                                         | As there are no particulate emissions with this unit, it is highly unlikely this limit will be exceeded.                                                                                                                      |
| EQUI 218 - Emergency Diesel Generator | NMHC+NOx <= 6.4 grams per kilowatt-hour [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]            | Purchase a certified engine, O&M, meet 40 CFR pts. 1039 & 1090 as applicable | Monitoring required by the NSPS is adequate to demonstrate compliance with the standard because this NSPS was promulgated after November 15, 1990, and post-November 15, 1990, NSPS contain adequate monitoring requirements. |
|                                       | Particulate Matter <= 0.20 grams per kilowatt-hour [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150] | Purchase a certified engine, O&M, meet 40 CFR pts. 1039 & 1090 as applicable | Monitoring required by the NSPS is adequate to demonstrate compliance with the standard because this NSPS was promulgated after November 15, 1990, and post-November 15, 1990, NSPS contain adequate monitoring requirements. |
|                                       | Carbon Monoxide <= 3.5 grams per kilowatt-hour [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]     | Purchase a certified engine, O&M, meet 40 CFR pts. 1039 & 1090 as applicable | Monitoring required by the NSPS is adequate to demonstrate compliance with the standard because this NSPS was promulgated after November 15, 1990, and post-November 15, 1990, NSPS contain adequate monitoring requirements. |

| Subject Item* | Requirement (basis)                                                                                                                                                                             | What is the monitoring?                                                      | Why is this monitoring adequate?                                                                                                                                                                                              |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | Opacity <= 20 percent opacity during the acceleration mode [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                 | Purchase a certified engine, O&M, meet 40 CFR pts. 1039 & 1090 as applicable | Monitoring required by the NSPS is adequate to demonstrate compliance with the standard because this NSPS was promulgated after November 15, 1990, and post-November 15, 1990, NSPS contain adequate monitoring requirements. |
|               | Opacity <= 15 percent opacity during the lugging mode [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                      | Purchase a certified engine, O&M, meet 40 CFR pts. 1039 & 1090 as applicable | Monitoring required by the NSPS is adequate to demonstrate compliance with the standard because this NSPS was promulgated after November 15, 1990, and post-November 15, 1990, NSPS contain adequate monitoring requirements. |
|               | Opacity <= 50 percent opacity during the peaks in either the acceleration or lugging modes [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150] | Purchase a certified engine, O&M, meet 40 CFR pts. 1039 & 1090 as applicable | Monitoring required by the NSPS is adequate to demonstrate compliance with the standard because this NSPS was promulgated after November 15, 1990, and post-November 15, 1990, NSPS contain adequate monitoring requirements. |

| Subject Item*                                        | Requirement (basis)                                                                                                                                                                                                           | What is the monitoring?                                                      | Why is this monitoring adequate?                                                                                                                                                                                                                                         |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      | Sulfur Content of Fuel <= 15.0 parts per million and either a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume [40 CFR 60.4207(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150] | Purchase a certified engine, O&M, meet 40 CFR pts. 1039 & 1090 as applicable | Monitoring required by the NSPS is adequate to demonstrate compliance with the standard because this NSPS was promulgated after November 15, 1990, and post-November 15, 1990, NSPS contain adequate monitoring requirements.                                            |
| EQUI 219 - Make-Up Air Unit                          | Opacity <= 20 percent opacity with exceptions [Minn. R. 7011.0610, subp. 1(A)(2)]                                                                                                                                             | None                                                                         | The unit uses natural gas, therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that this unit will continue to operate such that emissions are well below the emission limits by only burning natural gas. |
|                                                      | Particulate Matter <= 0.30 grains per dry standard cubic foot [Minn. R. 7011.0610, subp. 1(A)(1)]                                                                                                                             | None                                                                         | The unit uses natural gas, therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that this unit will continue to operate such that emissions are well below the emission limits by only burning natural gas. |
| EQUI 225 - DDGS Storage Building Handling            | Opacity <= 5 percent opacity [Minn. R. 7011.1005, subp. 3(A)]                                                                                                                                                                 | Daily VE checks, recordkeeping, corrective action                            | Daily visible emissions checks assures compliance with this limit. These requirements are at EQUI 177.                                                                                                                                                                   |
| FUGI 7 - Miscellaneous VOC Fugitives (non-tank farm) | Volatile Organic Compounds >= 95.0 percent, or to an exit concentration of 20 parts per million by volume (ppmv) [40 CFR 60.482-10a(b), Minn. R. 7011.2900(D)]                                                                | Work practice standards                                                      | Monitoring required by the NSPS is adequate to demonstrate compliance with the standard because this NSPS was promulgated after November 15, 1990, and post-November 15, 1990, NSPS contain adequate monitoring requirements.                                            |

| <b>Subject Item*</b>      | <b>Requirement (basis)</b>                                                                                                           | <b>What is the monitoring?</b>                                                                                             | <b>Why is this monitoring adequate?</b>                                                                                                                                                                                       |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           | Volatile Organic Compounds $\geq$ 95.0 percent, or to an exit concentration of 20 ppmv [40 CFR 60.482-10a(c), Minn. R. 7011.2900(D)] | Work practice standards                                                                                                    | Monitoring required by the NSPS is adequate to demonstrate compliance with the standard because this NSPS was promulgated after November 15, 1990, and post-November 15, 1990, NSPS contain adequate monitoring requirements. |
| FUGI 15 - Cooling Tower 1 | Opacity $\leq$ 20 percent opacity [IPER]                                                                                             | None                                                                                                                       | The likelihood of violating this limit is very small, therefore, no additional monitoring is required.                                                                                                                        |
|                           | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot [IPER]                                                             | None                                                                                                                       | The likelihood of violating this limit is very small, therefore, no additional monitoring is required.                                                                                                                        |
| FUGI 16 - Cooling Tower 2 | Opacity $\leq$ 20 percent opacity [IPER]                                                                                             | None                                                                                                                       | The likelihood of violating this limit is very small, therefore, no additional monitoring is required.                                                                                                                        |
|                           | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot [IPER]                                                             | None                                                                                                                       | The likelihood of violating this limit is very small, therefore, no additional monitoring is required.                                                                                                                        |
| TREA 6 - Flaring          | Volatile Organic Compounds $\geq$ 95 percent control efficiency [Consent Decree]                                                     | Daily and periodic inspections, daily flame presence inspection, daily VE check, recordkeeping, O&M and corrective actions | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance.                                                                         |
|                           | Volatile Organic Compounds $\geq$ 98 percent control efficiency [Avoid PSD major source & modification]                              | Daily and periodic inspections, daily flame presence inspection, daily VE check, recordkeeping, O&M and corrective actions | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance.                                                                         |
| TREA 7 - Hammermill #1    | Particulate Matter $\geq$ 99 percent control efficiency [Avoid PSD major source & modification]                                      | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                                      | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance.                                                                      |



| <b>Subject Item*</b>   | <b>Requirement (basis)</b>                                                                                     | <b>What is the monitoring?</b>                                                        | <b>Why is this monitoring adequate?</b>                                                                                                                  |
|------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | PM < 10 micron<br>≥ 93 percent control efficiency<br>[Title V modeling, Avoid PSD major source & modification] | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                        | PM < 2.5 micron<br>≥ 93 percent control efficiency<br>[Avoid PSD major source & modification]                  | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                        | Pressure Drop ≥ 0.05 and ≤ 4.0 inches of water<br>[CAM, Avoid PSD major source & modification]                 | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
| TREA 8 - Hammermill #2 | Particulate Matter ≥ 99 percent control efficiency [Avoid PSD major source & modification]                     | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                        | PM < 10 micron<br>≥ 93 percent control efficiency<br>[Title V modeling, Avoid PSD major source & modification] | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                        | PM < 2.5 micron<br>≥ 93 percent control efficiency<br>[Avoid PSD major source & modification]                  | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                        | Pressure Drop ≥ 0.05 and ≤ 4.0 inches of water<br>[CAM, Avoid PSD major source & modification]                 | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |

| <b>Subject Item*</b>       | <b>Requirement (basis)</b>                                                                                    | <b>What is the monitoring?</b>                                                        | <b>Why is this monitoring adequate?</b>                                                                                                                  |
|----------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| TREA 9 -<br>Hammermill #3  | Particulate Matter $\geq 99$ percent control efficiency [Avoid PSD major source & modification]               | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | PM < 10 micron $\geq 93$ percent control efficiency [Title V modeling, Avoid PSD major source & modification] | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | PM < 2.5 micron $\geq 93$ percent control efficiency [Avoid PSD major source & modification]                  | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | Pressure Drop $\geq 0.05$ and $\leq 4.0$ inches of water [CAM, Avoid PSD major source & modification]         | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
| TREA 10 -<br>Hammermill #4 | Particulate Matter $\geq 99$ percent control efficiency [Avoid PSD major source & modification]               | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | PM < 10 micron $\geq 93$ percent control efficiency [Title V modeling, Avoid PSD major source & modification] | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | PM < 2.5 micron $\geq 93$ percent control efficiency [Avoid PSD major source & modification]                  | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |

| <b>Subject Item*</b>       | <b>Requirement (basis)</b>                                                                                      | <b>What is the monitoring?</b>                                                                                           | <b>Why is this monitoring adequate?</b>                                                                                                                  |
|----------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | Pressure Drop $\geq$ 0.05 and $\leq$ 4.0 inches of water [CAM, Avoid PSD major source & modification]           | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                                    | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
| TREA 11 Grain Receiving #2 | Particulate Matter $\geq$ 80 percent collection efficiency [Minn. R. 7011.1005, subp. 3(E)]                     | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | Particulate Matter $\geq$ 79.2 percent control efficiency [Avoid PSD major source & modification]               | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | Particulate Matter $\geq$ 80 percent capture efficiency [Avoid PSD major source & modification]                 | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | PM < 10 micron $\geq$ 74.4 percent control efficiency [Title V modeling, Avoid PSD major source & modification] | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | PM < 10 micron $\geq$ 80.0 percent capture efficiency [Avoid PSD major source & modification]                   | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |

| <b>Subject Item*</b>       | <b>Requirement (basis)</b>                                                                                                                                                        | <b>What is the monitoring?</b>                                                                                           | <b>Why is this monitoring adequate?</b>                                                                                                                  |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | PM < 2.5 micron<br>≥ 74.4 percent control efficiency<br>[Avoid PSD major source & modification]                                                                                   | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | PM < 2.5 micron<br>≥ 80.0 percent capture efficiency [Avoid PSD major source & modification]                                                                                      | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                            | Pressure Drop ≥ 0.05 and ≤ 4.0 inches of water<br>[CAM, Avoid PSD major source & modification]                                                                                    | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
| TREA 14 - Thermal Oxidizer | Volatile Organic Compounds ≥ 95 percent control efficiency (VOC as mass) or less than or equal to 10 parts per million<br>[Consent Decree, Avoid PSD major source & modification] | Temp limit, temp monitoring & recordkeeping, O&M, calibration                                                            | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance     |
|                            | Carbon Monoxide ≥ 90 percent control efficiency or less than or equal to 100 parts per million [Consent Decree, Avoid PSD major source & modification]                            | Temp limit, temp monitoring & recordkeeping, O&M, calibration                                                            | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance     |

| <b>Subject Item*</b>         | <b>Requirement (basis)</b>                                                                                | <b>What is the monitoring?</b>                                                                                           | <b>Why is this monitoring adequate?</b>                                                                                                                  |
|------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | Particulate Matter $\geq 80.0$ percent control efficiency [Avoid PSD major source & modification]         | Temp limit, temp monitoring & recordkeeping, O&M, calibration                                                            | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance     |
|                              | PM < 10 micron $\geq 80.0$ percent control efficiency [Avoid PSD major source & modification]             | Temp limit, temp monitoring & recordkeeping, O&M, calibration                                                            | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance     |
|                              | PM < 2.5 micron $\geq 80.0$ percent control efficiency [Avoid PSD major source & modification]            | Temp limit, temp monitoring & recordkeeping, O&M, calibration                                                            | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance     |
|                              | Temperature $\geq 1634$ degrees Fahrenheit 3-hour rolling average [Avoid PSD major source & modification] | Temp limit, temp monitoring & recordkeeping, O&M, calibration                                                            | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance     |
| TREA 15 - Grain Receiving #1 | Particulate Matter $\geq 80$ percent collection efficiency [Minn. R. 7011.1005, subp. 3(E)]               | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                              | Particulate Matter $\geq 79.2$ percent control efficiency [Avoid PSD major source & modification]         | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                              | Particulate Matter $\geq 80$ percent capture efficiency [Avoid PSD major source & modification]           | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |

| <b>Subject Item*</b>                   | <b>Requirement (basis)</b>                                                                                    | <b>What is the monitoring?</b>                                                                                           | <b>Why is this monitoring adequate?</b>                                                                                                                  |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | PM < 10 micron<br>≥ 74.4 percent control efficiency [Title V modeling, Avoid PSD major source & modification] | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                                        | PM < 10 micron<br>≥ 80.0 percent capture efficiency [Avoid PSD major source & modification]                   | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                                        | PM < 2.5 micron<br>≥ 74.4 percent control efficiency [Avoid PSD major source & modification]                  | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                                        | PM < 2.5 micron<br>≥ 80.0 percent capture efficiency [Avoid PSD major source & modification]                  | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                                        | Pressure Drop ≥ 0.05 and ≤ 4.0 inches of water [CAM, Avoid PSD major source & modification]                   | Daily and periodic inspections, pressure drop, O&M, corrective actions, hood certification and evaluation, recordkeeping | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
| TREA 17 - Packed-Gas Adsorption Column | Volatile Organic Compounds ≥ 95 percent control efficiency [Avoid PSD major source & modification]            | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping             | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance.    |

| <b>Subject Item*</b>                   | <b>Requirement (basis)</b>                                                                                                                                                                                   | <b>What is the monitoring?</b>                                                                               | <b>Why is this monitoring adequate?</b>                                                                                                               |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | Water flow rate $\geq 10.0$ gallons per minute<br>[Avoid PSD major source & modification]                                                                                                                    | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                                        | Pressure Drop $\geq 1.0$ and $\leq 12.0$ inches of water<br>[Avoid PSD major source & modification]                                                                                                          | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
| TREA 19 - Packed-Gas Adsorption Column | Volatile Organic Compounds $\geq 95$ percent control efficiency, or if the inlet is less than 200 ppm VOC, then less than or equal to 20 ppm VOC.<br>[Consent Decree, Avoid PSD major source & modification] | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                                        | Water flow rate $\geq 20.0$ gallons per minute 3-hour average (AOS 1) [AOS, Avoid PSD major source & modification]                                                                                           | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                                        | Water flow rate $\geq 26.7$ gallons per minute 3-hour average (AOS 2) [AOS, Avoid PSD major source & modification]                                                                                           | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |

| <b>Subject Item*</b>    | <b>Requirement (basis)</b>                                                                                                    | <b>What is the monitoring?</b>                                                                               | <b>Why is this monitoring adequate?</b>                                                                                                                  |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Additive Flow Application Rate $\geq 1.5$ gallons per hour (AOS 2) [AOS, Avoid PSD major source & modification, Avoid NESHAP] | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance.    |
|                         | Pressure Drop $\geq 1.0$ and $\leq 12.0$ inches of water [Avoid PSD major source & modification]                              | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance.    |
| TREA 20 - Silo Baghouse | Particulate Matter $\geq 99$ percent control efficiency [Avoid PSD major source & modification]                               | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                         | PM < 10 micron $\geq 93$ percent control efficiency [Title V modeling, Avoid PSD major source & modification]                 | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                         | PM < 2.5 micron $\geq 93$ percent control efficiency [Avoid PSD major source & modification]                                  | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                         | Particulate Matter $\geq 80$ percent collection efficiency [Minn. R. 7011.1005, subp. 3(E)]                                   | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                         | Pressure Drop $\geq 0.10$ and $\leq 4.0$ inches of water [CAM, Avoid PSD major source & modification]                         | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |



| <b>Subject Item*</b>                   | <b>Requirement (basis)</b>                                                                                                                                                                                   | <b>What is the monitoring?</b>                                                                               | <b>Why is this monitoring adequate?</b>                                                                                                               |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| TREA 22 - Fluid Bed Baghouse           | Particulate Matter $\geq 99$ percent control efficiency [Avoid PSD major source & modification]                                                                                                              | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance.                        |
|                                        | PM < 10 micron $\geq 93$ percent control efficiency [Title V modeling, Avoid PSD major source & modification]                                                                                                | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance.                        |
|                                        | PM < 2.5 micron $\geq 93$ percent control efficiency [Avoid PSD major source & modification]                                                                                                                 | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance.                        |
|                                        | Pressure Drop $\geq 0.10$ and $\leq 4.0$ inches of water [Avoid PSD major source & modification]                                                                                                             | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance.                        |
| TREA 25 - Packed-Gas Adsorption Column | Volatile Organic Compounds $\geq 95$ percent control efficiency, or if the inlet is less than 200 ppm of VOC, then less than or equal to 20 ppm VOC. [Consent Decree, Avoid PSD major source & modification] | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                                        | Water flow rate $\geq 20.0$ gallons per minute 3-hour average (AOS 1) [AOS, Avoid PSD major source & modification]                                                                                           | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |

| <b>Subject Item*</b>    | <b>Requirement (basis)</b>                                                                                                    | <b>What is the monitoring?</b>                                                                               | <b>Why is this monitoring adequate?</b>                                                                                                               |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Water flow rate $\geq 37.8$ gallons per minute 3-hour average (AOS 2) [AOS, Avoid PSD major source & modification]            | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                         | Additive Flow Application Rate $\geq 2.8$ gallons per hour (AOS 2) [AOS, Avoid PSD major source & modification, Avoid NESHAP] | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
|                         | Pressure Drop $\geq 1.0$ and $\leq 12.0$ inches of water [Avoid PSD major source & modification]                              | Daily & periodic inspections, pressure drop and flow rate monitoring, O&M, corrective actions, recordkeeping | Monitoring based on the Minnesota Performance Standard for Control Equipment and the approved CAM plan provides a reasonable assurance of compliance. |
| TREA 26 - Hammermill #5 | Particulate Matter $\geq 99$ percent control efficiency [Avoid PSD major source & modification]                               | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance.                        |
|                         | PM < 10 micron $\geq 93$ percent control efficiency [Title V modeling, Avoid PSD major source & modification]                 | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance.                        |
|                         | PM < 2.5 micron $\geq 93$ percent control efficiency [Avoid PSD major source & modification]                                  | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance.                        |
|                         | Pressure Drop $\geq 0.1$ and $\leq 6.0$ inches of water [CAM, Avoid PSD major source & modification]                          | Daily and periodic inspections, pressure drop, O&M, corrective actions, recordkeeping                        | Monitoring required by the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance.                        |

| Subject Item*   | Requirement (basis)                                                                                                                                                              | What is the monitoring?                                       | Why is this monitoring adequate?                                                                                           |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| TREA 27 - RTO 2 | Volatile Organic Compounds >= 95 percent control efficiency (VOC as mass) or less than or equal to 10 parts per million. [Consent Decree, Avoid PSD major source & modification] | Temp limit, temp monitoring & recordkeeping, O&M, calibration | Monitoring based on the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance |
|                 | Carbon Monoxide >= 90 percent control efficiency or less than or equal to 100 parts per million. [Consent Decree, Avoid PSD major source & modification]                         | Temp limit, temp monitoring & recordkeeping, O&M, calibration | Monitoring based on the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance |
|                 | Particulate Matter >= 80.0 percent control efficiency [Avoid PSD major source & modification]                                                                                    | Temp limit, temp monitoring & recordkeeping, O&M, calibration | Monitoring based on the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance |
|                 | PM < 10 micron >= 80.0 percent control efficiency [Avoid PSD major source & modification]                                                                                        | Temp limit, temp monitoring & recordkeeping, O&M, calibration | Monitoring based on the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance |
|                 | PM < 2.5 micron >= 80.0 percent control efficiency [Avoid PSD major source & modification]                                                                                       | Temp limit, temp monitoring & recordkeeping, O&M, calibration | Monitoring based on the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance |
|                 | Temperature >= 1634 degrees Fahrenheit 3-hour rolling average [Avoid PSD major source & modification]                                                                            | Temp limit, temp monitoring & recordkeeping, O&M, calibration | Monitoring based on the Minnesota Performance Standard for Control Equipment provides a reasonable assurance of compliance |

\*Location of the requirement in the permit (e.g., EQUI 1, STRU 2, etc.).

### 3.6 Insignificant activities

POET Biorefining - Preston has several operations which are classified as insignificant activities under the MPCA's permitting rules. These are listed in Appendix A to the permit.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities. See Attachment 1 of this TSD for PTE information for the insignificant activities.

**Table 12. Insignificant activities**

| Insignificant activity                                                                        | General applicable emission limit                                                                                          | Discussion                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fuel Use: space heaters fueled by kerosene, natural gas, or propane, less than 420,000 Btu/hr | PM $\leq$ 0.6 or 0.4 lb/MMBtu, depending on year constructed<br>Opacity $\leq$ 20% with exceptions<br>(Minn. R. 7011.0515) | 3 kerosene space heaters with a total capacity of 345,000 Btu/hr. For these units, based on the fuels used and EPA published emissions factors, it is highly unlikely that it could violate the applicable requirement. In addition, these types of units are typically operated and vented inside a building, so testing for PM or opacity is not feasible. |
| Indirect heating equipment with a heat input capacity less than 420,000 Btu/hour, etc.        | PM $\leq$ 0.6 or 0.4, depending on year constructed<br>Opacity $\leq$ 20% with exceptions<br>(Minn. R. 7011.0515)          | 2 front office furnaces and 2 plant office furnaces. For these units, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirements.                                                                                                                                                |
| Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(D)                     | PM, variable depending on airflow<br>Opacity $\leq$ 20%<br>(Minn. R. 7011.0715)                                            | Quality assurance lab. These are very small, intermittent, bench-top operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable requirement.                                                                                                                                                     |
| Brazing, soldering, torch-cutting, or welding equipment                                       | PM, variable depending on airflow<br>Opacity $\leq$ 20%<br>(Minn. R. 7011.0715)                                            | Welding, brazing, and soldering operations. For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.                                                 |
| Individual units with potential emissions less than 2000 lb/year of certain pollutants        | PM, variable depending on airflow<br>Opacity $\leq$ 20%<br>(Minn. R. 7011.0715)                                            | 2 distillate tanks, CO <sub>2</sub> skids and tanks, 500 gallon diesel storage tank. These units are highly unlikely to violate the applicable requirements.                                                                                                                                                                                                 |

### 3.7 Permit organization and standard language

This permit meets the MPCA Tempo Guidance for ordering and grouping of requirements as well as the use of permit appendices.

The only item that deviates from MPCA Tempo Guidance is the listing of certain applicable requirements at the group level even though they apply at the individual unit. Specifically: the industrial process equipment rule (IPER) is placed at COMGs 14, 15, and 21-27 and the direct heating rule is placed at COMGs 21 and 22. In general, limits that apply to individual pieces of equipment should be tracked at the unit level and should not be listed at a group. The main reason is if there were noncompliance with a limit by one unit within the group, the computer system would say the whole group was out of compliance. For this case, the group requirements apply to the group as a whole. Therefore, it is highly unlikely that the MPCA would need to track noncompliance with this limit at the individual unit level so the permit team decided that a group was an acceptable way to include these requirements.

### **3.8 Comments received**

This section will be completed after the referenced review periods.

Public Notice Period: [start date] – [end date]

EPA Review Period: [start date] – [end date]

## **4. Permit fee assessment**

This permit action is the reissuance of an individual Part 70; therefore, no application fees apply under Minn. R. 7002.0016, subp. 1 to the changes that are covered by the reissuance application. However, the permit action rolls in one permit application to which fees do apply. Attachment 7 to this TSD contains the MPCA's assessment of Application and Additional Points used to determine the permit application fee as required by Minn. R. 7002.0019. The action includes SO<sub>2</sub> modeling review and limits to avoid PSD on those modeled SO<sub>2</sub> limits.

## **5. Conclusion**

Based on the information provided by POET Biorefining - Preston the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 04500049-102 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff members on permit team: Tarik Hanafy (permit engineer)  
Andrea Behrendt (peer reviewer)  
Rebecca Settle (performance testing)  
Kayla Park (enforcement)  
Joe Handtmann (data coordinator)  
Laurie O'Brien (administrative support)

Tempo Activities: Major Amendment (IND20260001), Permit Reopening (IND20240001), Part 70 Reissuance (IND20230001)

Attachments: 1. PTE summary calculation spreadsheets  
2. Subject item inventory and facility requirements  
3. CAM Plans  
4. Modeling Results  
5. Notice of Non-Compliance/Notice of Compliance  
6. PM<sub>10</sub> and SO<sub>2</sub> Modeling Parameters  
7. Points Calculator

## **Attachment 1 - PTE Summary Calculation Spreadsheets**



# GI-07 Spreadsheet

Facility Emissions Summary  
Air Quality Permit Program  
Doc Type: Permit Application



Alternate Format

# GI-07 Spreadsheet

Facility Emissions Summary  
Air Quality Permit Program  
Doc Type: Permit Application



Alte

1a) AQ Facility ID No.: 4500049  
2) Facility Name: PRO-CORN, LLC d/b/a POET Biorefining - Preston

1b) Agency Interest ID No.:  
1a) AQ Facility ID No.: 4500049  
2) Facility Name: PRO-CORN, LLC d/b/a POET Biorefining - Preston

issions spreadsheet and must be submitted on a CD with  
ou need to provide information for more pollutants, add rows

You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet and must be submitted on a CD with your application. If you need to provide emissions information for more emissions units, add more sets of columns (3a through 3f) to the right as needed in the Emissions by Source table. If you need to provide information for more pollutants, add rows as needed.

You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions for Form GI-07 to complete application. If you need to provide emissions information for more emissions units, add more sets of columns (3a thr needed.

Emissions by Source Table

| COMG 26 |               |         |             |            | 3a) Delta ID No.: COMG 14    |       |            |               |             | 3a) Delta ID No.: COMG 15    |                   |       |            |         | 3a) Delta ID No.: COMG 21    |            |                                |       |            | 3a) Delta ID No.: NA         |             |               |                 |       | 3a) Delta ID No.: EQU1 67, 71    |         |             |            |                   | 3a) Delta ID No.: EQU1 67, 71    |            |         |             |            |                   |       |
|---------|---------------|---------|-------------|------------|------------------------------|-------|------------|---------------|-------------|------------------------------|-------------------|-------|------------|---------|------------------------------|------------|--------------------------------|-------|------------|------------------------------|-------------|---------------|-----------------|-------|----------------------------------|---------|-------------|------------|-------------------|----------------------------------|------------|---------|-------------|------------|-------------------|-------|
| COMG 26 |               |         |             |            | 3b) Tempo SI ID No.: COMG 14 |       |            |               |             | 3b) Tempo SI ID No.: COMG 15 |                   |       |            |         | 3b) Tempo SI ID No.: COMG 21 |            |                                |       |            | 3b) Tempo SI ID No.: COMG 21 |             |               |                 |       | 3b) Tempo SI ID No.: EQU1 67, 71 |         |             |            |                   | 3b) Tempo SI ID No.: EQU1 67, 71 |            |         |             |            |                   |       |
| 3d)     | 3e) Potential |         |             |            | 3f)                          | 3c)   | 3d)        | 3e) Potential |             |                              |                   | 3f)   | 3c)        | 3d)     | 3e) Potential                |            |                                |       | 3f)        | 3c)                          | 3d)         | 3e) Potential |                 |       |                                  | 3f)     | 3c)         | 3d)        | 3e) Potential     |                                  |            |         | 3f)         | 3c)        | 3d)               |       |
| CAS #   | Lbs per Hr    | Unc tpy | Limited tpy | Actual tpy | Pollutant Name               | CAS # | Lbs per Hr | Unc tpy       | Limited tpy | Actual tpy                   | Pollutant Name    | CAS # | Lbs per Hr | Unc tpy | Limited tpy                  | Actual tpy | Pollutant Name                 | CAS # | Lbs per Hr | Unc tpy                      | Limited tpy | Actual tpy    | Pollutant Name  | CAS # | Lbs per Hr                       | Unc tpy | Limited tpy | Actual tpy | Pollutant Name    | CAS #                            | Lbs per Hr | Unc tpy | Limited tpy | Actual tpy | Pollutant Name    | CAS # |
|         | 0.31          | 135.08  | 1.35        | 1.35       | VOC                          |       | 12.00      | 545.45        | 3.00        | 3.00                         | VOC               |       | 1.50       | 131.40  | 6.57                         | 6.57       | PM                             |       | 13.50      | 295.65                       | 59.13       | 59.13         | PM              |       | 0.00                             | 0.00    | 0.00        | 0.00       | PM                |                                  | 0.00       | 0.00    | 0.00        | 0.00       | PM                |       |
|         | 0.31          | 19.30   | 1.35        | 1.35       | Acetaldehyde                 |       | 0.41       | 0.68          | 0.10        | 0.10                         | Acetaldehyde      |       | 0.03       | 0.93    | 0.14                         | 0.14       | PM10                           |       | 13.50      | 295.65                       | 59.13       | 59.13         | PM10            |       | 0.00                             | 0.00    | 0.00        | 0.00       | PM10              |                                  | 0.00       | 0.00    | 0.00        | 0.00       | PM10              |       |
|         | 0.31          | 19.30   | 1.35        | 1.35       | Acrolein                     |       | 0.05       | 0.07          | 0.01        | 0.01                         | Acrolein          |       | 0.00       | 0.01    | 0.01                         | 0.01       | PM2.5                          |       | 13.50      | 295.65                       | 59.13       | 59.13         | PM2.5           |       | 0.00                             | 0.00    | 0.00        | 0.00       | PM2.5             |                                  | 0.00       | 0.00    | 0.00        | 0.00       | PM2.5             |       |
|         |               |         |             |            | Formaldehyde                 |       | 0.01       | 0.05          | 0.00        | 0.00                         | Formaldehyde      |       | 0.00       | 0.02    | 0.00                         | 0.00       | CO                             |       | 13.10      | 573.78                       | 57.38       | 57.38         | CO              |       | 0.00                             | 0.00    | 0.00        | 0.00       | CO                |                                  | 0.00       | 0.00    | 0.00        | 0.00       | CO                |       |
|         |               |         |             |            | Methanol                     |       | 0.05       | 0.92          | 0.01        | 0.01                         | Methanol          |       | 0.00       | 0.09    | 0.00                         | 0.00       | NO <sub>x</sub>                |       | 11.96      | 52.38                        | 52.38       | 52.38         | NO <sub>x</sub> |       | 0.00                             | 0.00    | 0.00        | 0.00       | NO <sub>x</sub>   |                                  | 0.00       | 0.00    | 0.00        | 0.00       | NO <sub>x</sub>   |       |
|         |               |         |             |            | CO <sub>2</sub>              |       | 28.72      | 251,609.54    | 251,609.54  | 251,609.54                   | CO <sub>2</sub>   |       | 50.00      | 219.00  | 219.00                       | 219.00     | SO <sub>2</sub>                |       | 50.00      | 219.00                       | 219.00      | 219.00        | SO <sub>2</sub> |       | 0.00                             | 0.00    | 0.00        | 0.00       | SO <sub>2</sub>   |                                  | 0.00       | 0.00    | 0.00        | 0.00       | SO <sub>2</sub>   |       |
|         |               |         |             |            | CO <sub>2</sub> e            |       | 28.72      | 251609.54     | 251609.54   | 251,609.54                   | CO <sub>2</sub> e |       |            |         |                              |            | VOC                            |       | 12.00      | 2628.00                      | 52.56       | 52.56         | VOC             |       | 2.35                             | 1.68    | 1.68        | 1.68       | VOC               |                                  |            |         |             |            | VOC               |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | CO <sub>2</sub>                |       | 14494.36   | 63485.30                     | 63485.30    | 63,485.30     | Benzene         |       | 0.05                             | 4.82    | 0.04        | 0.04       | CO <sub>2</sub>   |                                  |            |         |             |            | CO <sub>2</sub>   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | CH <sub>4</sub>                |       | 0.27       | 1.19                         | 1.19        | 1.19          | Naphthalene     |       | 0.02                             | 2.10    | 0.02        | 0.02       | CH <sub>4</sub>   |                                  |            |         |             |            | CH <sub>4</sub>   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | N <sub>2</sub> O               |       | 0.03       | 0.12                         | 0.12        | 0.12          | Cumene          |       | 0.02                             | 2.10    | 0.02        | 0.02       | N <sub>2</sub> O  |                                  |            |         |             |            | N <sub>2</sub> O  |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | CO <sub>2</sub> e              |       | 14508.55   | 63547.43                     | 63547.43    | 63,547.43     | Ethylbenzene    |       | 0.05                             | 4.19    | 0.03        | 0.03       | CO <sub>2</sub> e |                                  |            |         |             |            | CO <sub>2</sub> e |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Acetaldehyde                   |       | 1.04       | 90.67                        | 4.53        | 4.53          | Hexane          |       | 0.16                             | 14.67   | 0.12        | 0.12       | Benzene           |                                  |            |         |             |            | Benzene           |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Acrolein                       |       | 0.15       | 13.47                        | 0.67        | 0.67          | Toluene         |       | 0.35                             | 31.44   | 0.25        | 0.25       | Naphthalene       |                                  |            |         |             |            | Naphthalene       |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Formaldehyde                   |       | 0.60       | 52.56                        | 2.63        | 2.63          | Xylenes         |       | 0.35                             | 31.44   | 0.25        | 0.25       | Cumene            |                                  |            |         |             |            | Cumene            |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Methanol                       |       | 0.18       | 16.17                        | 0.81        | 0.81          |                 |       |                                  |         |             |            | Ethylbenzene      |                                  |            |         |             |            | Ethylbenzene      |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Carbonyl Sulfide               |       | 0.03       | 2.74                         | 0.14        | 0.14          |                 |       |                                  |         |             |            | Hexane            |                                  |            |         |             |            | Hexane            |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Carbon Disulfide               |       | 0.06       | 4.95                         | 0.25        | 0.25          |                 |       |                                  |         |             |            | Toluene           |                                  |            |         |             |            | Toluene           |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | 2-Methylnaphthalene            |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            | Xylenes           |                                  |            |         |             |            | Xylenes           |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | 3-Methylchloranthrene          |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | 7,12-Dimethylbenz(a)anthracene |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Acenaphthene                   |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Acenaphthylene                 |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Anthracene                     |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Benz(a)anthracene              |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Benzene                        |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Benzo(a)pyrene                 |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Benzo(b)fluoranthene           |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Benzo(g,h,i)perylene           |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Benzo(k)fluoranthene           |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Chrysene                       |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Dibenzo(a,h)anthracene         |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Dichlorobenzene                |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Fluoranthene                   |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Fluorene                       |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Hexane                         |       | 0.04       | 0.96                         | 0.18        | 0.18          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Indeno(1,2,3-cd)pyrene         |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Naphthalene                    |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Phenanthrene                   |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Pyrene                         |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Toluene                        |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Arsenic                        |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Beryllium                      |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Cadmium                        |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Chromium                       |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Cobalt                         |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Lead                           |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Manganese                      |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Mercury                        |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Nickel                         |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            | Selenium                       |       | 0.00       | 0.00                         | 0.00        | 0.00          |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            |                                |       |            |                              |             |               |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            |                                |       |            |                              |             |               |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            |                                |       |            |                              |             |               |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            |                                |       |            |                              |             |               |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            |                                |       |            |                              |             |               |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            |                                |       |            |                              |             |               |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |
|         |               |         |             |            |                              |       |            |               |             |                              |                   |       |            |         |                              |            |                                |       |            |                              |             |               |                 |       |                                  |         |             |            |                   |                                  |            |         |             |            |                   |       |



**Facility Emissions Summary**  
Air Quality Permit Program  
Doc Type: Permit Application

Doc Type: Permit Application

Doc Type: Permit Application

1b) Agency Interest ID No.: 1a) AQ Facility ID No.: 4500049

PRO-CORN, LLC d/b/a POET Biorefining - Preston

PRO-CORN

You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet and must be submitted on a CD with your application. If you need to provide emissions information for more emissions units, add more sets of columns (3a through 3f) to the right as needed in the Emissions by Source table. If you need to provide information for more pollutants, add rows as needed.

## Emissions by Source Table

[illegible]

1. **Form GI-07.** Follow the instructions for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet and must be submitted on a CD with your information for more emissions units, add more sets of columns (3a through 3f) to the right as needed in the Emissions by Source table. If you need to provide information for more pollutants, add rows as

|               |             |                |             | 3a) Delta ID No.:    |       |            |         | SV035         |            |                |       | 3a) Delta ID No.:    |         |             |            | TK006          |       |                |         | 3a) Delta ID No.:    |            |                |       | TK010         |         |                |            | 3a) Delta ID No.:    |       |            |         | TK011         |            |                |  | 3a) Delta ID No.:    |  |  |  | TK012   |  |  |  |
|---------------|-------------|----------------|-------------|----------------------|-------|------------|---------|---------------|------------|----------------|-------|----------------------|---------|-------------|------------|----------------|-------|----------------|---------|----------------------|------------|----------------|-------|---------------|---------|----------------|------------|----------------------|-------|------------|---------|---------------|------------|----------------|--|----------------------|--|--|--|---------|--|--|--|
|               |             |                |             | 3b) Tempo SI ID No.: |       |            |         | EQUI 218      |            |                |       | 3b) Tempo SI ID No.: |         |             |            | EQUI 36        |       |                |         | 3b) Tempo SI ID No.: |            |                |       | EQUI 34       |         |                |            | 3b) Tempo SI ID No.: |       |            |         | EQUI 35       |            |                |  | 3b) Tempo SI ID No.: |  |  |  | EQUI 37 |  |  |  |
| 3e) Potential |             | 3f) Actual tpy |             | 3c) Pollutant Name   |       | 3d) CAS #  |         | 3e) Potential |            | 3f) Actual tpy |       | 3c) Pollutant Name   |         | 3d) CAS #   |            | 3e) Potential  |       | 3f) Actual tpy |         | 3c) Pollutant Name   |            | 3d) CAS #      |       | 3e) Potential |         | 3f) Actual tpy |            | 3c) Pollutant Name   |       | 3d) CAS #  |         | 3e) Potential |            | 3f) Actual tpy |  |                      |  |  |  |         |  |  |  |
| Unc tpy       | Limited tpy | Unc tpy        | Limited tpy | Pollutant Name       | CAS # | Lbs per Hr | Unc tpy | Limited tpy   | Actual tpy | Pollutant Name | CAS # | Lbs per Hr           | Unc tpy | Limited tpy | Actual tpy | Pollutant Name | CAS # | Lbs per Hr     | Unc tpy | Limited tpy          | Actual tpy | Pollutant Name | CAS # | Lbs per Hr    | Unc tpy | Limited tpy    | Actual tpy | Pollutant Name       | CAS # | Lbs per Hr | Unc tpy | Limited tpy   | Actual tpy |                |  |                      |  |  |  |         |  |  |  |
| 2.39          | 2.39        | 2.39           |             | PM                   |       | 4.99       | 21.85   | 1.25          | 1.25       | VOC            |       | 0.16                 | 0.72    | 0.72        | 0.72       | VOC            |       | 0.11           | 0.46    | 0.46                 | 0.46       | VOC            |       | 0.06          | 0.26    | 0.26           | 0.26       | VOC                  |       | 0.11       | 0.46    |               |            |                |  |                      |  |  |  |         |  |  |  |
| 2.39          | 2.39        | 2.39           |             | PM10                 |       | 4.99       | 21.85   | 1.25          | 1.25       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 2.39          | 2.39        | 2.39           |             | PM2.5                |       | 4.99       | 21.85   | 1.25          | 1.25       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 12.85         | 12.85       | 12.85          |             | NOx                  |       | 60.93      | 266.87  | 15.23         | 15.23      |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.19          | 0.19        | 0.19           |             | SO2                  |       | 12.07      | 52.86   | 3.02          | 3.02       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 1.73          | 1.73        | 1.73           |             | VOC                  |       | 1.06       | 4.66    | 0.27          | 0.27       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 26.45         | 26.45       | 26.45          |             | CO                   |       | 1.33       | 5.83    | 0.33          | 0.33       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 37547.97      | 37547.97    | 37,547.97      |             | CO2                  |       | 1252.89    | 5487.66 | 313.22        | 313.22     |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.71          | 0.71        | 0.71           |             | CH4                  |       | 0.05       | 0.22    | 0.01          | 0.01       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.07          | 0.07        | 0.07           |             | N2O                  |       | 0.01       | 0.04    | 0.00          | 0.00       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 37586.70      | 37586.70    | 37,586.70      |             | CO2e                 |       | 1257.19    | 5506.49 | 314.30        | 314.30     |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.00          | 0.00        | 0.00           |             | Acetaldehyde         |       | 0.00       | 0.00    | 0.00          | 0.00       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.00          | 0.00        | 0.00           |             | Acrolein             |       | 0.00       | 0.00    | 0.00          | 0.00       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.00          | 0.00        | 0.00           |             | Benzene              |       | 0.01       | 0.03    | 0.00          | 0.00       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.00          | 0.00        | 0.00           |             | Formaldehyde         |       | 0.00       | 0.00    | 0.00          | 0.00       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.00          | 0.00        | 0.00           |             | Naphthalene          |       | 0.00       | 0.00    | 0.00          | 0.00       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.00          | 0.00        | 0.00           |             | Toluene              |       | 0.00       | 0.01    | 0.00          | 0.00       |                |       |                      |         |             |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |
| 0.00          | 0.00        | 0.00           |             | Xylenes              |       | 0.00       | 0.01    | 0.00          | 0.00       |                |       |                      |         | </          |            |                |       |                |         |                      |            |                |       |               |         |                |            |                      |       |            |         |               |            |                |  |                      |  |  |  |         |  |  |  |

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|                         |                                                |
|-------------------------|------------------------------------------------|
| 1a) AQ Facility ID No.: | 4500049                                        |
| 2) Facility Name:       | PRO-CORN, LLC d/b/a POET Biorefining - Preston |

1b) Agency Interest ID No.: \_\_\_\_\_ 1a) AQ Facility ID No.: 4500049

2) Facility Name: PRO-CORN, LLC d/b/a POET Biorefining - Preston

an be copied into a tab for your emissions spreadsheet and must be submitted on a CD with the Emissions by Source table. If you need to provide information for more pollutants, add rows

You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet and must be submitted on a CD with your application. If you need to provide emissions information for more emissions units, add more sets of columns (3a through 3f) to the right as needed in the Emissions by Source table. If you need to provide information for more pollutants, add rows as needed.

You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions on the back of this form for submitting this spreadsheet with your application. If you need to provide emissions information for more emissions units than are shown on this spreadsheet, you may add additional units as needed.

### Emissions by Source Table

[illegible]

### Emissions by Source Table

[illegible]

ations for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet and must be submitted on a CD with its, add more sets of columns (3a through 3f) to the right as needed in the Emissions by Source table. If you need to provide information for more pollutants, add rows as needed.

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You may use and submit instructions for Form G copied into a tab for your emissions spreadsheet. If

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|                                                |                             |                                                |                             |
|------------------------------------------------|-----------------------------|------------------------------------------------|-----------------------------|
| 4500049                                        | 1b) Agency Interest ID No.: | 4500049                                        | 1b) Agency Interest ID No.: |
| PRO-CORN, LLC d/b/a POET Biorefining - Preston |                             | PRO-CORN, LLC d/b/a POET Biorefining - Preston |                             |

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You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet and must be submitted on a CD with your application. If you need to provide emissions information for more

Source Table

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1a) AQ Facility ID No 4500049

2) Facility Name: PRO-CORN, LLC d/b/a POET Biorefining - Preston

1b) Agency Interest ID No.:

1a) AQ Facility ID No.:

4500049

2) Facility Name: PRO-CORN, LLC d/b/a POET Biorefining - Preston

[illegible]



**Facility Emissions Summary**  
Air Quality Permit Program  
Doc Type: Permit Application

1b) Agency Interest ID No.:

1a) AQ Facility ID No.:

4500049

1a) AQ Facility ID No.:

4500049

PRO-CORN, LLC d/b/a POET Biorefining - Preston

2) Facility Name:

PRO-CORN, LLC d/b/a POET Biorefining - Preston

|             |                | 3a) Delta ID No.:    |       |            |         |               |                | 3a) Delta ID No.:              |       |                      |         |             |                | Emissions Summary Table        |       |                |         |                          |                |                                |              |                      |           |
|-------------|----------------|----------------------|-------|------------|---------|---------------|----------------|--------------------------------|-------|----------------------|---------|-------------|----------------|--------------------------------|-------|----------------|---------|--------------------------|----------------|--------------------------------|--------------|----------------------|-----------|
|             |                | 3b) Tempo SI ID No.: |       | COMG 27    |         |               |                | 3b) Tempo SI ID No.:           |       | FUGIZ1               |         |             |                | 3b) Tempo SI ID No.:           |       |                |         | Insignificant Activities |                |                                |              |                      |           |
|             |                | 3c) Tempo SI ID No.: |       | 3d) CAS #  |         | 3e) Potential |                | 3f) Actual tpy                 |       | 3c) Tempo SI ID No.: |         | 3d) CAS #   |                | 3e) Potential                  |       | 3f) Actual tpy |         | 4a) Pollutant Name       |                | 4b) Potential (tons/year)      |              | 4c) Actual tons/year |           |
| Limited tpy | 3f) Actual tpy | Pollutant Name       | CAS # | Lbs per Hr | Unc tpy | Limited tpy   | 3f) Actual tpy | Pollutant Name                 | CAS # | Lbs per Hr           | Unc tpy | Limited tpy | 3f) Actual tpy | Pollutant Name                 | CAS # | Lbs per Hr     | Unc tpy | Limited tpy              | 3f) Actual tpy | Pollutant Name                 | Unrestricted | Limited              | tons/year |
| 0.37        | 0.37           | PM                   |       | 0.31       | 135.08  | 1.35          | 1.35           | PM                             |       |                      |         |             |                | PM                             |       | 0.01           | 0.04    | 0.04                     | 0.04           | PM                             | 2,781.14     | 107.59               | 107.59    |
| 0.09        | 0.09           | PM10                 |       | 0.31       | 19.30   | 1.35          | 1.35           | PM10                           |       |                      |         |             |                | PM10                           |       | 0.00           | 0.01    | 0.01                     | 0.01           | PM10                           | 1,106.73     | 91.59                | 91.59     |
| 0.09        | 0.09           | PM2.5                |       | 0.31       | 19.30   | 1.35          | 1.35           | PM2.5                          |       |                      |         |             |                | PM2.5                          |       | 0.00           | 0.01    | 0.01                     | 0.01           | PM2.5                          | 1,085.73     | 85.55                | 85.55     |
| 0.81        | 0.81           |                      |       |            |         |               |                | CO                             |       |                      |         |             |                | CO                             |       | 0.01           | 0.05    | 0.05                     | 0.05           | CO                             | 631.37       | 109.48               | 109.48    |
| 0.07        | 0.07           |                      |       |            |         |               |                | NO <sub>x</sub>                |       |                      |         |             |                | NO <sub>x</sub>                |       | 0.05           | 0.22    | 0.22                     | 0.22           | NO <sub>x</sub>                | 345.13       | 93.49                | 93.49     |
| 0.06        | 0.06           |                      |       |            |         |               |                | SO <sub>2</sub>                |       |                      |         |             |                | SO <sub>2</sub>                |       | 0.01           | 0.06    | 0.06                     | 0.06           | SO <sub>2</sub>                | 275.99       | 226.21               | 226.21    |
| 0.01        | 0.01           |                      |       |            |         |               |                | VOC                            |       | 1.94                 | 1.26    | 1.26        | 1.26           | VOC                            |       | 0.10           | 0.44    | 0.44                     | 0.44           | VOC                            | 3,644.80     | 156.82               | 156.82    |
| 0.08        | 0.08           |                      |       |            |         |               |                | CO <sub>2</sub>                |       |                      |         |             |                | CO <sub>2</sub>                |       | 52.98          | 232.06  | 232.06                   | 232.06         | CO <sub>2</sub>                | 397.975      | 392,801              | 392,801   |
|             |                |                      |       |            |         |               |                | CH <sub>4</sub>                |       |                      |         |             |                | CH <sub>4</sub>                |       | 0.00           | 0.00    | 0.00                     | 0.00           | CH <sub>4</sub>                | 2.87         | 2.66                 | 2.66      |
|             |                |                      |       |            |         |               |                | N <sub>2</sub> O               |       |                      |         |             |                | N <sub>2</sub> O               |       | 0.00           | 0.00    | 0.00                     | 0.00           | N <sub>2</sub> O               | 0.31         | 0.27                 | 0.27      |
|             |                |                      |       |            |         |               |                | CO <sub>2</sub> e              |       |                      |         |             |                | CO <sub>2</sub> e              |       | 53.19          | 232.96  | 232.96                   | 232.96         | CO <sub>2</sub> e              | 398.136      | 392,944              | 392,944   |
|             |                |                      |       |            |         |               |                | Acetaldehyde                   |       | 0.01                 | 0.01    | 0.01        | 0.01           | Acetaldehyde                   |       | 0.00           | 0.00    | 0.00                     | 0.00           | Acetaldehyde                   | 96.04        | 5.94                 | 5.94      |
|             |                |                      |       |            |         |               |                | Acrolein                       |       | 0.00                 | 0.00    | 0.00        | 0.00           | Formaldehyde                   |       | 0.00           | 0.00    | 0.00                     | 0.00           | Acrolein                       | 15.94        | 1.50                 | 1.503     |
|             |                |                      |       |            |         |               |                | Formaldehyde                   |       | 0.00                 | 0.00    | 0.00        | 0.00           | Benzene                        |       | 0.00           | 0.00    | 0.00                     | 0.00           | Formaldehyde                   | 53.25        | 2.93                 | 2.930     |
|             |                |                      |       |            |         |               |                | Methanol                       |       | 0.00                 | 0.00    | 0.00        | 0.00           | Ethylbenzene                   |       | 0.00           | 0.00    | 0.00                     | 0.00           | Methanol                       | 20.13        | 1.88                 | 1.880     |
|             |                |                      |       |            |         |               |                | 2-Methylnaphthalene            |       |                      |         |             |                | Naphthalene                    |       | 0.00           | 0.00    | 0.00                     | 0.00           | Carbonyl Sulfide               | 2.84         | 0.24                 | 0.24      |
|             |                |                      |       |            |         |               |                | 3-Methylchloranthrene          |       |                      |         |             |                | Toluene                        |       | 0.00           | 0.00    | 0.00                     | 0.00           | Carbon Disulfide               | 5.07         | 0.37                 | 0.37      |
|             |                |                      |       |            |         |               |                | 7,12-Dimethylbenz(a)anthracene |       |                      |         |             |                | Xylenes                        |       | 0.00           | 0.00    | 0.00                     | 0.00           | Ethylbenzene                   | 8.39         | 0.12                 | 0.117     |
|             |                |                      |       |            |         |               |                | Acenaphthene                   |       |                      |         |             |                | 1,1,1 Trichloroethane          |       | 0.00           | 0.00    | 0.00                     | 0.00           | Cumene                         | 4.19         | 0.06                 | 0.058     |
|             |                |                      |       |            |         |               |                | Acenaphthylene                 |       |                      |         |             |                |                                |       |                |         |                          | 0.00           | Xylenes                        | 62.90        | 0.88                 | 0.877     |
|             |                |                      |       |            |         |               |                | Anthracene                     |       |                      |         |             |                |                                |       |                |         |                          | 0.00           | 1,1,1 Trichloroethane          | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Benz(a)anthracene              |       |                      |         |             |                | 2-Methylnaphthalene            |       | 0.00           |         |                          | 0.00           | 2-Methylnaphthalene            | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Benzene                        |       |                      |         |             |                | 3-Methylchloranthrene          |       | 0.00           |         |                          | 0.00           | 3-Methylchloranthrene          | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Benzo(a)pyrene                 |       |                      |         |             |                | 7,12-Dimethylbenz(a)anthracene |       | 0.00           |         |                          | 0.00           | 7,12-Dimethylbenz(a)anthracene | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Benzo(b)fluoranthene           |       |                      |         |             |                | Acenaphthene                   |       | 0.00           |         |                          | 0.00           | Acenaphthene                   | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Benzo(g,h,i)perylene           |       |                      |         |             |                | Acenaphthylene                 |       | 0.00           |         |                          | 0.00           | Acenaphthylene                 | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Benzo(k)fluoranthene           |       |                      |         |             |                | Anthracene                     |       | 0.00           |         |                          | 0.00           | Anthracene                     | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Chrysene                       |       |                      |         |             |                | Benz(a)anthracene              |       | 0.00           |         |                          | 0.00           | Benz(a)anthracene              | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Dibenzo(a,h)anthracene         |       |                      |         |             |                | Benzene                        |       | 0.00           |         |                          | 0.00           | Benzene                        | 9.79         | 0.16                 | 0.159     |
|             |                |                      |       |            |         |               |                | Dichlorobenzene                |       |                      |         |             |                | Benzo(a)pyrene                 |       | 0.00           |         |                          | 0.00           | Benzo(a)pyrene                 | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Fluoranthene                   |       |                      |         |             |                | Benzo(b)fluoranthene           |       | 0.00           |         |                          | 0.00           | Benzo(b)fluoranthene           | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Fluorene                       |       |                      |         |             |                | Benzo(g,h,i)perylene           |       | 0.00           |         |                          | 0.00           | Benzo(g,h,i)perylene           | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Hexane                         |       |                      |         |             |                | Benzo(k)fluoranthene           |       | 0.00           |         |                          | 0.00           | Benzo(k)fluoranthene           | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Indeno(1,2,3-cd)pyrene         |       |                      |         |             |                | Chrysene                       |       | 0.00           |         |                          | 0.00           | Chrysene                       | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Naphthalene                    |       |                      |         |             |                | Dibenzo(a,h)anthracene         |       | 0.00           |         |                          | 0.00           | Dibenzo(a,h)anthracene         | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Phenanthrene                   |       |                      |         |             |                | Dichlorobenzene                |       | 0.00           |         |                          | 0.00           | Dichlorobenzene                | 0.00         | 0.00                 | 0.001     |
|             |                |                      |       |            |         |               |                | Pyrene                         |       |                      |         |             |                | Fluoranthene                   |       | 0.00           |         |                          | 0.00           | Fluoranthene                   | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Toluene                        |       |                      |         |             |                | Fluorene                       |       | 0.00           |         |                          | 0.00           | Fluorene                       | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Arsenic                        |       |                      |         |             |                | Hexane                         |       | 0.00           |         |                          | 0.00           | Hexane                         | 32.19        | 1.90                 | 1.896     |
|             |                |                      |       |            |         |               |                | Beryllium                      |       |                      |         |             |                | Indeno(1,2,3-cd)pyrene         |       | 0.00           |         |                          | 0.00           | Indeno(1,2,3-cd)pyrene         | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Cadmium                        |       |                      |         |             |                | Naphthalene                    |       | 0.00           |         |                          | 0.00           | Naphthalene                    | 4.20         | 0.06                 | 0.059     |
|             |                |                      |       |            |         |               |                | Chromium                       |       |                      |         |             |                | Phenanthrene                   |       | 0.00           |         |                          | 0.00           | Phenanthrene                   | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Cobalt                         |       |                      |         |             |                | Pyrene                         |       | 0.00           |         |                          | 0.00           | Pyrene                         | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Lead                           |       |                      |         |             |                | Toluene                        |       | 0.00           |         |                          | 0.00           | Toluene                        | 62.92        | 0.88                 | 0.883     |
|             |                |                      |       |            |         |               |                | Manganese                      |       |                      |         |             |                | Arsenic                        |       | 0.00           |         |                          | 0.00           | Arsenic                        | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Mercury                        |       |                      |         |             |                | Beryllium                      |       | 0.00           |         |                          | 0.00           | Beryllium                      | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                | Nickel                         |       |                      |         |             |                | Cadmium                        |       | 0.00           |         |                          | 0.00           | Cadmium                        | 0.00         | 0.00                 | 0.001     |
|             |                |                      |       |            |         |               |                | Selenium                       |       |                      |         |             |                | Chromium                       |       | 0.00           |         |                          | 0.00           | Chromium                       | 0.00         | 0.00                 | 0.002     |
|             |                |                      |       |            |         |               |                |                                |       |                      |         |             |                | Cobalt                         |       | 0.00           |         |                          | 0.00           | Cobalt                         | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                |                                |       |                      |         |             |                | Lead                           |       | 0.00           |         |                          | 0.00           | Lead                           | 0.00         | 0.00                 | 0.001     |
|             |                |                      |       |            |         |               |                |                                |       |                      |         |             |                | Manganese                      |       | 0.00           |         |                          | 0.00           | Manganese                      | 0.00         | 0.00                 | 0.000     |
|             |                |                      |       |            |         |               |                |                                |       |                      |         |             |                | Mercury                        |       | 0.00           |         |                          | 0.00           | Mercury                        | 0.00         | 0.00                 | 0.000     |



**POET Biorefining - Preston**  
**Preston, MN**  
**Potential Emission Summary**

| Delta ID                                    | Controlled Emissions                    | TSP                |              | PM10         |              | PM2.5        |              | NOx          |              | SOx           |               | VOC           |               | CO            |               |
|---------------------------------------------|-----------------------------------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Emission Point                              | Description                             | lb/hr              | Lim tpy      | lb/hr        | Lim tpy      | lb/hr        | Lim tpy      | lb/hr        | Lim tpy      | lb/hr         | Lim tpy       | lb/hr         | Lim tpy       | lb/hr         | Lim tpy       |
| COMG 18                                     | Grain Receiving and Handling #1         | 0.23               | 0.99         | 0.23         | 0.99         | 0.23         | 0.99         |              |              |               |               |               |               |               |               |
| COMG 19                                     | Grain Receiving and Handling #2         | 0.31               | 1.35         | 0.31         | 1.35         | 0.31         | 1.35         |              |              |               |               |               |               |               |               |
| COMG 18, 19                                 | Uncaptured Grain Receiving              | 15.39              | 6.39         | 4.54         | 1.89         | 0.77         | 0.32         |              |              |               |               |               |               |               |               |
| COMG 23                                     | Hammermill 1                            | 0.31               | 1.35         | 0.31         | 1.35         | 0.31         | 1.35         |              |              |               |               |               |               |               |               |
| COMG 24                                     | Hammermill 2                            | 0.31               | 1.35         | 0.31         | 1.35         | 0.31         | 1.35         |              |              |               |               |               |               |               |               |
| COMG 25                                     | Hammermill 3                            | 0.31               | 1.35         | 0.31         | 1.35         | 0.31         | 1.35         |              |              |               |               |               |               |               |               |
| COMG 26                                     | Hammermill 4                            | 0.31               | 1.35         | 0.31         | 1.35         | 0.31         | 1.35         |              |              |               |               |               |               |               |               |
| COMG 27                                     | Hammermill 5                            | 0.31               | 1.35         | 0.31         | 1.35         | 0.31         | 1.35         |              |              |               |               |               |               |               |               |
| EQUI 204                                    | Flour Receiver                          | 0.14               | 0.62         | 0.14         | 0.62         | 0.14         | 0.62         |              |              |               |               |               |               |               |               |
| COMG 14                                     | Fermentation Scrubber Stack             |                    |              |              |              |              |              |              |              |               |               | 12.00         | 3.00          |               |               |
| COMG 15                                     | Distillation Scrubber                   |                    |              |              |              |              |              |              |              |               |               | 1.50          | 6.57          |               |               |
| COMG 21                                     | RTO                                     | 13.50              | 59.13        | 13.50        | 59.13        | 13.50        | 59.13        | 11.96        | 52.38        | 50.00         | 219.00        | 12.00         | 52.56         | 13.10         | 57.38         |
| COMG 22                                     | RTO (new)                               | 13.50              | 59.13        | 13.50        | 59.13        | 13.50        | 59.13        | 11.96        | 52.38        | 50.00         | 219.00        | 12.00         | 52.56         | 13.10         | 57.38         |
| STRU9                                       | Dryer 1 Emergency Bypass                | Emergency Use Only |              |              |              |              |              |              |              |               |               |               |               |               |               |
| STRU21                                      | Dryer 2 Emergency Bypass                | Emergency Use Only |              |              |              |              |              |              |              |               |               |               |               |               |               |
| EQUI 67, 71                                 | Ethanol Loading Rack                    | 0.00               | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 1.01         | 0.74         | 0.00          | 0.00          | 5.83          | 4.16          | 2.36          | 1.70          |
| EQUI 67, 71                                 | Uncaptured Ethanol Loading Rack         |                    |              |              |              |              |              |              |              |               |               | 2.35          | 1.68          |               |               |
| COMG 20                                     | Centrifuge Stack                        |                    |              |              |              |              |              |              |              |               |               | 2.61          | 0.65          |               |               |
| EQUI 23                                     | DDG Fluid Bed Cooler                    | 2.06               | 9.01         | 2.06         | 9.01         | 2.06         | 9.01         |              |              | 0.84          | 3.68          | 8.00          | 35.04         |               |               |
| COMG 17                                     | DDGS Storage Silo                       | 0.07               | 0.30         | 0.07         | 0.30         | 0.07         | 0.30         |              |              | 0.42          | 0.10          | 0.23          | 0.81          |               |               |
| EQUI199, 5, 225, 177, 200, 8, 179, 201, 202 | Uncaptured DDGS Handling and Loadout    | 2.80               | 3.30         | 0.68         | 0.80         | 0.68         | 0.80         |              |              |               |               | 6.19          | 7.30          |               |               |
| EQUI 14                                     | Boiler #1                               | 0.47               | 2.05         | 0.47         | 2.05         | 0.47         | 2.05         | 2.51         | 11.01        | 0.04          | 0.16          | 0.34          | 1.48          | 5.18          | 22.67         |
| EQUI 9                                      | Boiler #2                               | 0.55               | 2.39         | 0.55         | 2.39         | 0.55         | 2.39         | 2.93         | 12.85        | 0.04          | 0.19          | 0.40          | 1.73          | 6.04          | 26.45         |
| EQUI 218                                    | Emergency Diesel Generator              | 4.99               | 1.25         | 4.99         | 1.25         | 4.99         | 1.25         | 60.93        | 15.23        | 12.07         | 3.02          | 1.06          | 0.27          | 1.33          | 0.33          |
| EQUI 195                                    | Whole Stillage Tank                     |                    |              |              |              |              |              |              |              |               |               | 0.02          | 0.08          |               |               |
| EQUI 196                                    | Thin Stillage Tank                      |                    |              |              |              |              |              |              |              |               |               | 0.08          | 0.36          |               |               |
| EQUI 197, EQUI 211                          | Syrup Tank                              |                    |              |              |              |              |              |              |              |               |               | 0.10          | 0.44          |               |               |
| EQUI219                                     | Make-Up Air Unit                        | 0.02               | 0.08         | 0.02         | 0.08         | 0.02         | 0.08         | 0.24         | 1.06         | 0.00          | 0.01          | 0.01          | 0.06          | 0.20          | 0.89          |
| EQUI 36                                     | 190 Proof Ethanol Shift Tank (T801)     |                    |              |              |              |              |              |              |              |               |               | 0.16          | 0.72          |               |               |
| EQUI 34                                     | 200 Proof Ethanol Storage Tank (T804)   |                    |              |              |              |              |              |              |              |               |               | 0.11          | 0.46          |               |               |
| EQUI 35                                     | 200 Proof Ethanol Storage Tank (T806)   |                    |              |              |              |              |              |              |              |               |               | 0.06          | 0.26          |               |               |
| EQUI 37                                     | 200 Proof Ethanol Storage Tank (T803)   |                    |              |              |              |              |              |              |              |               |               | 0.11          | 0.46          |               |               |
| EQUI 38                                     | Denaturant Tank (T802)                  |                    |              |              |              |              |              |              |              |               |               | 0.28          | 1.22          |               |               |
| EQUI 212                                    | Corrosion Inhibitor Storage Tank (T852) |                    |              |              |              |              |              |              |              |               |               | 0.06          | 0.28          |               |               |
|                                             | Insignificant Activities                | 0.01               | 0.04         | 0.00         | 0.01         | 0.00         | 0.01         | 0.05         | 0.22         | 0.01          | 0.06          | 0.10          | 0.44          | 0.01          | 0.05          |
| <b>Total Point Sources</b>                  |                                         |                    | <b>93.61</b> |              | <b>86.61</b> |              | <b>85.04</b> |              | <b>93.27</b> |               | <b>226.15</b> |               | <b>119.59</b> |               | <b>109.42</b> |
|                                             |                                         |                    |              |              |              |              |              |              |              |               |               |               |               |               |               |
| Fugitive Sources                            | Description                             | TSP                |              | PM10         |              | PM2.5        |              | NOx          |              | SOx           |               | VOC           |               | CO            |               |
|                                             |                                         | lb/hr              | Lim tpy      | lb/hr        | Lim tpy      | lb/hr        | ton/yr       | lb/hr        | Lim tpy      | lb/hr         | Lim tpy       | lb/hr         | Lim tpy       | lb/hr         | Lim tpy       |
| FUGI 1                                      | Paved Roads                             | 25.03              | 9.99         | 5.01         | 2.00         | 1.23         | 0.49         |              |              |               |               |               |               |               |               |
| FUGI 7                                      | Tank Valves, Flanges & Seals            |                    |              |              |              |              |              |              |              |               |               | 2.55          | 11.16         |               |               |
| FUGI 15, FUGI 16                            | Cooling Towers                          | 0.90               | 3.95         | 0.68         | 2.98         | 0.00         | 0.01         |              |              |               |               |               |               |               |               |
| FUGI 13                                     | Tank Farm Equipment Fugitives           |                    |              |              |              |              |              |              |              |               |               | 0.84          | 3.66          |               |               |
| FUGI 20                                     | Fermenter and Beerwell Leaks            |                    |              |              |              |              |              |              |              |               |               | 4.33          | 18.95         |               |               |
| FUGI 21                                     | Brewery Waste Receiving                 |                    |              |              |              |              |              |              |              |               |               | 1.94          | 1.26          |               |               |
| FUGI 12                                     | Wet Cake Production                     |                    |              |              |              |              |              |              |              |               |               | 0.40          | 1.74          |               |               |
| <b>Total Fugitive Sources</b>               |                                         |                    | <b>13.9</b>  |              | <b>5.0</b>   |              | <b>0.5</b>   |              | <b>0.0</b>   |               | <b>0.0</b>    |               | <b>36.8</b>   |               | <b>0.0</b>    |
|                                             |                                         |                    |              |              |              |              |              |              |              |               |               |               |               |               |               |
| <b>Total Potential Emissions</b>            |                                         | <b>107.59</b>      |              | <b>91.59</b> |              | <b>85.55</b> |              | <b>93.49</b> |              | <b>226.21</b> |               | <b>156.82</b> |               | <b>109.48</b> |               |

**POET Biorefining - Preston**  
**Preston, MN**  
**Potential Emission Summary**

| Delta ID                                    | Controlled Emissions                    | Acetaldehyde    |                    | Total HAP       |              | CO <sub>2e</sub>       |                  | CO <sub>2</sub>       |                  | CH <sub>4</sub>       |             | N <sub>2</sub> O       |             |
|---------------------------------------------|-----------------------------------------|-----------------|--------------------|-----------------|--------------|------------------------|------------------|-----------------------|------------------|-----------------------|-------------|------------------------|-------------|
| Emission Point                              | Description                             | lb/hr           | Lim tpy            | lb/hr           | Lim tpy      | lb/hr                  | Lim tpy          | lb/hr                 | Lim tpy          | lb/hr                 | Lim tpy     | lb/hr                  | Lim tpy     |
| COMG 18                                     | Grain Receiving and Handling #1         |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| COMG 19                                     | Grain Receiving and Handling #2         |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| COMG 18, 19                                 | Uncaptured Grain Receiving              |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| COMG 23                                     | Hammermill 1                            |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| COMG 24                                     | Hammermill 2                            |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| COMG 25                                     | Hammermill 3                            |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| COMG 26                                     | Hammermill 4                            |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| COMG 27                                     | Hammermill 5                            |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 204                                    | Flour Receiver                          |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| COMG 14                                     | Fermentation Scrubber Stack             | 0.41            | 0.10               | 0.51            | 0.13         | 28.72                  | 251,610          | 28.72                 | 251,610          |                       |             |                        |             |
| COMG 15                                     | Distillation Scrubber                   | 0.03            | 0.14               | 0.03            | 0.15         |                        |                  |                       |                  |                       |             |                        |             |
| COMG 21                                     | RTO                                     | 1.04            | 4.53               | 2.10            | 9.21         | 14,509                 | 63,547           | 14,494.36             | 63,485.30        | 0.27                  | 1.19        | 0.03                   | 0.12        |
| COMG 22                                     | RTO (new)                               | 1.04            | 4.53               | 2.12            | 9.31         | 15,913                 | 69,697           | 15,897.04             | 69,629.04        | 0.30                  | 1.31        | 0.03                   | 0.13        |
| STRU9                                       | Dryer 1 Emergency Bypass                |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| STRU21                                      | Dryer 2 Emergency Bypass                |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 67, 71                                 | Ethanol Loading Rack                    |                 |                    | 2.52            | 1.80         | 6.44                   | 28.19            | 6.43                  | 28.16            | 0.0                   | 0.001       | 0.00001                | 0.00005     |
| EQUI 67, 71                                 | Uncaptured Ethanol Loading Rack         |                 |                    | 1.02            | 0.73         |                        |                  |                       |                  |                       |             |                        |             |
| COMG 20                                     | Centrifuge Stack                        | 0.2201          | 0.0550             | 0.24            | 0.06         |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 23                                     | DDG Fluid Bed Cooler                    | 0.08            | 0.34               | 0.23            | 0.99         |                        |                  |                       |                  |                       |             |                        |             |
| COMG 17                                     | DDGS Storage Silo                       | 0.0195          | 0.07               | 0.08            | 0.29         |                        |                  |                       |                  |                       |             |                        |             |
| EQUI199, 5, 225, 177, 200, 8, 179, 201, 202 | Uncaptured DDGS Handling and Loadout    | 0.52            | 0.61               | 1.66            | 1.95         |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 14                                     | Boiler #1                               |                 |                    | 0.12            | 0.51         | 7,354                  | 32,213           | 7,347                 | 32,179           | 0.14                  | 0.61        | 0.01                   | 0.06        |
| EQUI 9                                      | Boiler #2                               |                 |                    | 0.14            | 0.59         | 8,581                  | 37,587           | 8,573                 | 37,548           | 0.16                  | 0.71        | 0.02                   | 0.07        |
| EQUI 218                                    | Emergency Diesel Generator              | 0.00            | 0.00               | 0.01            | 0.00         | 1,257                  | 314              | 1,253                 | 313              | 0.05                  | 0.01        | 0.01                   | 0.003       |
| EQUI 195                                    | Whole Stillage Tank                     | 0.00            | 0.00               | 0.00            | 0.00         |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 196                                    | Thin Stillage Tank                      | 0.00            | 0.00               | 0.00            | 0.00         |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 197, EQUI 211                          | Syrup Tank                              | 0.00            | 0.00               | 0.00            | 0.00         |                        |                  |                       |                  |                       |             |                        |             |
| EQUI219                                     | Make-Up Air Unit                        |                 |                    | 0.00            | 0.02         | 288                    | 1,263            | 288                   | 1,262            | 0.01                  | 0.02        | 0.00                   | 0.00        |
| EQUI 36                                     | 190 Proof Ethanol Shift Tank (T801)     |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 34                                     | 200 Proof Ethanol Storage Tank (T804)   |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 35                                     | 200 Proof Ethanol Storage Tank (T806)   |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 37                                     | 200 Proof Ethanol Storage Tank (T803)   |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 38                                     | Denaturant Tank (T802)                  |                 |                    | 0.02            | 0.07         |                        |                  |                       |                  |                       |             |                        |             |
| EQUI 212                                    | Corrosion Inhibitor Storage Tank (T852) |                 |                    | 0.01            | 0.03         |                        |                  |                       |                  |                       |             |                        |             |
|                                             | Insignificant Activities                | 0.00            | 0.00               | 0.00            | 0.00         | 53.19                  | 232.96           | 52.98                 | 232.06           | 0.00                  | 0.00        | 0.00                   | 0.00        |
| <b>Total Point Sources</b>                  |                                         |                 | <b>5.85</b>        |                 | <b>16.64</b> |                        | <b>392711.21</b> |                       | <b>392568.81</b> |                       | <b>2.66</b> |                        | <b>0.27</b> |
| Fugitive Sources                            | Description                             | ghest HAP lb/hr | Acetaldehy Lim tpy | Total HAP lb/hr | Lim tpy      | CO <sub>2e</sub> lb/hr | Lim tpy          | CO <sub>2</sub> lb/hr | Lim tpy          | CH <sub>4</sub> lb/hr | Lim tpy     | N <sub>2</sub> O lb/hr | Lim tpy     |
| FUGI 1                                      | Paved Roads                             |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| FUGI 7                                      | Tank Valves, Flanges & Seals            |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| FUGI 15, FUGI 16                            | Cooling Towers                          |                 |                    |                 |              |                        |                  |                       |                  |                       |             |                        |             |
| FUGI 13                                     | Tank Farm Equipment Fugitives           | 0.00            | 0.00               | 0.00            | 0.10         |                        |                  |                       |                  |                       |             |                        |             |
| FUGI 20                                     | Fermenter and Beerwell Leaks            | 0.02            | 0.07               | 0.02            | 0.09         |                        |                  |                       |                  |                       |             |                        |             |
| FUGI 21                                     | Brewery Waste Receiving                 | 0.01            | 0.01               | 0.02            | 0.01         |                        |                  |                       |                  |                       |             |                        |             |
| FUGI 12                                     | Wet Cake Production                     | 0.00            | 0.02               | 0.02            | 0.08         |                        |                  |                       |                  |                       |             |                        |             |
| <b>Total Fugitive Sources</b>               |                                         |                 | <b>0.10</b>        |                 | <b>0.28</b>  |                        | <b>0.0</b>       |                       | <b>0.0</b>       |                       | <b>0.0</b>  |                        | <b>0.0</b>  |
| <b>Total Potential Emissions</b>            |                                         |                 | <b>5.94</b>        |                 | <b>16.92</b> |                        | <b>392944</b>    |                       | <b>392801</b>    |                       | <b>2.66</b> |                        | <b>0.27</b> |

**POET Biorefining - Preston**  
**Preston, MN**  
**Potential Emission Summary**

| Delta ID                                    | Uncontrolled Emissions                  | TSP                |                | PM10   |                | PM2.5  |                | NOx   |               | SOx   |               | VOC      |                | CO     |                |
|---------------------------------------------|-----------------------------------------|--------------------|----------------|--------|----------------|--------|----------------|-------|---------------|-------|---------------|----------|----------------|--------|----------------|
| Emission Point                              | Description                             | lb/hr              | Unc tpy        | lb/hr  | Unc tpy        | lb/hr  | Unc tpy        | lb/hr | Unc tpy       | lb/hr | Unc tpy       | lb/hr    | Unc tpy        | lb/hr  | Unc tpy        |
| COMG 18                                     | Grain Receiving and Handling #1         | 30.86              | 135.15         | 4.41   | 19.31          | 4.41   | 19.31          |       |               |       |               |          |                |        |                |
| COMG 19                                     | Grain Receiving and Handling #2         | 30.86              | 135.15         | 4.41   | 19.31          | 4.41   | 19.31          |       |               |       |               |          |                |        |                |
| COMG 18, 19                                 | Uncaptured Grain Receiving              | 15.39              | 67.39          | 6.39   | 19.88          | 19.88  | 3.36           |       |               |       |               |          |                |        |                |
| COMG 23                                     | Hammermill 1                            | 30.84              | 135.08         | 4.41   | 19.30          | 4.41   | 19.30          |       |               |       |               |          |                |        |                |
| COMG 24                                     | Hammermill 2                            | 30.84              | 135.08         | 4.41   | 19.30          | 4.41   | 19.30          |       |               |       |               |          |                |        |                |
| COMG 25                                     | Hammermill 3                            | 30.84              | 135.08         | 4.41   | 19.30          | 4.41   | 19.30          |       |               |       |               |          |                |        |                |
| COMG 26                                     | Hammermill 4                            | 30.84              | 135.08         | 4.41   | 19.30          | 4.41   | 19.30          |       |               |       |               |          |                |        |                |
| COMG 27                                     | Hammermill 5                            | 30.84              | 135.08         | 4.41   | 19.30          | 4.41   | 19.30          |       |               |       |               |          |                |        |                |
| EQUI 204                                    | Flour Receiver                          | 144.00             | 488.76         | 144.00 | 488.76         | 144.00 | 488.76         |       |               |       |               |          |                |        |                |
| COMG 14                                     | Fermentation Scrubber Stack             |                    |                |        |                |        |                |       |               |       |               | 2,181.82 | 545.45         |        |                |
| COMG 15                                     | Distillation Scrubber                   |                    |                |        |                |        |                |       |               |       |               | 30.00    | 131.40         |        |                |
| COMG 21                                     | RTO                                     | 67.50              | 295.65         | 67.50  | 295.65         | 67.50  | 295.65         | 11.96 | 52.38         | 50.00 | 219.00        | 600.00   | 2,628.00       | 131.00 | 573.78         |
| COMG 22                                     | RTO (new)                               | 67.50              | 295.65         | 67.50  | 295.65         | 67.50  | 295.65         | 11.96 | 52.38         | 50.00 | 219.00        | 600.00   | 2,628.00       | 131.00 | 573.78         |
| STRU9                                       | Dryer 1 Emergency Bypass                | Emergency Use Only |                |        |                |        |                |       |               |       |               |          |                |        |                |
| STRU21                                      | Dryer 2 Emergency Bypass                | Emergency Use Only |                |        |                |        |                |       |               |       |               |          |                |        |                |
| EQUI 67, 71                                 | Ethanol Loading Rack                    |                    |                |        |                |        |                | 1.01  | 0.74          |       |               | 293.67   | 209.62         | 2.36   | 1.70           |
| EQUI 67, 71                                 | Uncaptured Ethanol Loading Rack         |                    |                |        |                |        |                |       |               |       |               | 2.35     | 1.68           |        |                |
| COMG 20                                     | Centrifuge Stack                        |                    |                |        |                |        |                |       |               |       |               | 2.61     | 11.42          |        |                |
| EQUI 23                                     | DDG Fluid Bed Cooler                    | 205.71             | 901.03         | 29.39  | 128.72         | 29.39  | 128.72         |       |               | 0.84  | 3.68          | 8.00     | 35.04          |        |                |
| COMG 17                                     | DDGS Storage Silo                       | 6.86               | 30.03          | 0.98   | 4.29           | 0.98   | 4.29           |       |               | 0.42  | 0.10          | 0.23     | 0.81           |        |                |
| EQUI199, 5, 225, 177, 200, 8, 179, 201, 202 | Uncaptured DDGS Handling and Loadout    | 2.80               | 12.24          | 0.68   | 2.97           | 0.68   | 2.97           |       |               |       |               | 6.19     | 7.30           |        |                |
| EQUI 14                                     | Boiler #1                               | 0.47               | 2.05           | 0.47   | 2.05           | 0.47   | 2.05           | 2.51  | 11.01         | 0.04  | 0.16          | 0.34     | 1.48           | 5.18   | 22.67          |
| EQUI 9                                      | Boiler #2                               | 0.55               | 2.39           | 0.55   | 2.39           | 0.55   | 2.39           | 2.93  | 12.85         | 0.04  | 0.19          | 0.40     | 1.73           | 6.04   | 26.45          |
| EQUI 218                                    | Diesel Generator                        | 4.99               | 21.85          | 4.99   | 21.85          | 4.99   | 21.85          | 60.93 | 266.87        | 12.07 | 52.86         | 1.06     | 4.66           | 1.33   | 5.83           |
| EQUI 195                                    | Whole Stillage Tank                     |                    |                |        |                |        |                |       |               |       |               | 0.02     | 0.08           |        |                |
| EQUI 196                                    | Thin Stillage Tank                      |                    |                |        |                |        |                |       |               |       |               | 0.08     | 0.36           |        |                |
| EQUI 197, EQUI 211                          | Syrup Tank                              |                    |                |        |                |        |                |       |               |       |               | 0.10     | 0.44           |        |                |
| EQUI219                                     | Make-Up Air Unit                        | 0.02               | 0.08           | 0.02   | 0.08           | 0.02   | 0.08           | 0.24  | 1.06          | 0.00  | 0.01          | 0.01     | 0.06           | 0.20   | 0.89           |
| EQUI 36                                     | 190 Proof Ethanol Shift Tank (T801)     |                    |                |        |                |        |                |       |               |       |               | 0.16     | 0.72           |        |                |
| EQUI 34                                     | 200 Proof Ethanol Storage Tank (T804)   |                    |                |        |                |        |                |       |               |       |               | 0.11     | 0.46           |        |                |
| EQUI 35                                     | 200 Proof Ethanol Storage Tank (T806)   |                    |                |        |                |        |                |       |               |       |               | 0.06     | 0.26           |        |                |
| EQUI 37                                     | 200 Proof Ethanol Storage Tank (T803)   |                    |                |        |                |        |                |       |               |       |               | 0.11     | 0.46           |        |                |
| EQUI 38                                     | Denaturant Tank (T802)                  |                    |                |        |                |        |                |       |               |       |               | 0.28     | 1.22           |        |                |
| EQUI 212                                    | Corrosion Inhibitor Storage Tank (T852) |                    |                |        |                |        |                |       |               |       |               | 0.06     | 0.28           |        |                |
| <b>Total Point Sources</b>                  |                                         |                    | <b>3062.82</b> |        | <b>1397.39</b> |        | <b>1380.87</b> |       | <b>397.29</b> |       | <b>494.99</b> |          | <b>6210.94</b> |        | <b>1205.10</b> |
| Fugitive Sources                            | Description                             | TSP                |                | PM10   |                | PM2.5  |                | NOx   |               | SOx   |               | VOC      |                | CO     |                |
|                                             |                                         | lb/hr              | Unc tpy        | lb/hr  | Unc tpy        | lb/hr  | Unc tpy        | lb/hr | Unc tpy       | lb/hr | Unc tpy       | lb/hr    | Unc tpy        | lb/hr  | Unc tpy        |
| FUGI 1                                      | Paved Roads                             | 25.03              | 9.99           | 5.01   | 2.00           | 1.23   | 0.49           |       |               |       |               | 2.55     | 11.16          |        |                |
| FUGI 7                                      | Tank Valves, Flanges & Seals            |                    |                |        |                |        |                |       |               |       |               |          |                |        |                |
| FUGI 15, FUGI 16                            | Cooling Towers                          | 0.90               | 3.95           | 0.68   | 2.98           | 0.00   | 0.01           |       |               |       |               |          |                |        |                |
| FUGI 13                                     | Tank Farm Equipment Fugitives           |                    |                |        |                |        |                |       |               |       |               | 0.84     | 3.66           |        |                |
| FUGI 20                                     | Fermenter and Beerwell Leaks            |                    |                |        |                |        |                |       |               |       |               | 4.33     | 24.53          |        |                |
| FUGI 12                                     | Wet Cake Production                     |                    |                |        |                |        |                |       |               |       |               | 0.40     | 1.74           |        |                |
| <b>Total Fugitive Sources</b>               |                                         |                    | <b>13.94</b>   |        | <b>4.98</b>    |        | <b>0.50</b>    |       | <b>0.00</b>   |       | <b>0.00</b>   |          | <b>41.10</b>   |        | <b>0.00</b>    |

**POET Biorefining - Preston**  
**Preston, MN**  
**Potential Emission Summary**

| Delta ID                                    | Uncontrolled Emissions                  | Acetaldehyde    |                     | Total HAP       |               | CO <sub>2e</sub>       |                | CO <sub>2</sub>       |                | CH <sub>4</sub>       |             | N <sub>2</sub> O       |             |
|---------------------------------------------|-----------------------------------------|-----------------|---------------------|-----------------|---------------|------------------------|----------------|-----------------------|----------------|-----------------------|-------------|------------------------|-------------|
| Emission Point                              | Description                             | lb/hr           | Unc tpy             | lb/hr           | Unc tpy       | lb/hr                  | Unc tpy        | lb/hr                 | Unc tpy        | lb/hr                 | Unc tpy     | lb/hr                  | Unc tpy     |
| COMG 18                                     | Grain Receiving and Handling #1         |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| COMG 19                                     | Grain Receiving and Handling #2         |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| COMG 18, 19                                 | Uncaptured Grain Receiving              |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| COMG 23                                     | Hammermill 1                            |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| COMG 24                                     | Hammermill 2                            |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| COMG 25                                     | Hammermill 3                            |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| COMG 26                                     | Hammermill 4                            |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| COMG 27                                     | Hammermill 5                            |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| EQUI 204                                    | Flour Receiver                          |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| COMG 14                                     | Fermentation Scrubber Stack             | 2.72            | 0.68                | 3.76            | 0.94          | 28.72                  | 251,609.54     | 28.72                 | 251,609.54     |                       |             |                        |             |
| COMG 15                                     | Distillation Scrubber                   | 0.21            | 0.93                | 0.24            | 1.05          |                        |                |                       |                |                       |             |                        |             |
| COMG 21                                     | RTO                                     | 20.70           | 90.67               | 41.22           | 181.52        | 14,508.55              | 63,547.43      | 14,494.36             | 63,485.30      | 0.27                  | 1.19        | 0.03                   | 0.12        |
| COMG 22                                     | RTO (new)                               | 20.70           | 90.67               | 41.22           | 180.55        | 15,912.60              | 69,697.18      | 15,897.04             | 69,629.04      | 0.30                  | 1.31        | 0.03                   | 0.13        |
| STRU9                                       | Dryer 1 Emergency Bypass                |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| STRU21                                      | Dryer 2 Emergency Bypass                |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| EQUI 67, 71                                 | Ethanol Loading Rack                    |                 |                     | 127.16          | 90.77         | 6.44                   | 28.19          | 6.43                  | 28.16          |                       |             |                        |             |
| EQUI 67, 71                                 | Uncaptured Ethanol Loading Rack         |                 |                     | 1.02            | 0.73          |                        |                |                       |                |                       |             |                        |             |
| COMG 20                                     | Centrifuge Stack                        | 0.22            | 0.96                | 0.24            | 1.06          |                        |                |                       |                |                       |             |                        |             |
| EQUI 23                                     | DDG Fluid Bed Cooler                    | 0.08            | 0.34                | 0.23            | 0.99          |                        |                |                       |                |                       |             |                        |             |
| COMG 17                                     | DDGS Storage Silo                       | 0.02            | 0.07                | 0.08            | 0.29          |                        |                |                       |                |                       |             |                        |             |
| EQUI199, 5, 225, 177, 200, 8, 179, 201, 202 | Uncaptured DDGS Handling and Loadout    | 0.52            | 0.61                | 1.66            | 1.95          |                        |                |                       |                |                       |             |                        |             |
| EQUI 14                                     | Boiler #1                               |                 |                     | 0.12            | 0.51          | 7354.46                | 32212.56       | 7346.89               | 32179.37       | 0.14                  | 0.61        | 0.01                   | 0.06        |
| EQUI 9                                      | Boiler #2                               |                 |                     |                 |               | 8581.44                | 37586.70       | 8572.60               | 37547.97       | 0.16                  | 0.71        | 0.02                   | 0.07        |
| EQUI 218                                    | Diesel Generator                        | 0.00            | 0.00                | 0.01            | 0.05          | 1257.19                | 5506.49        | 1252.89               | 5487.66        | 0.05                  | 0.22        | 0.01                   | 0.04        |
| EQUI 195                                    | Whole Stillage Tank                     | 0.00            | 0.00                | 0.00            | 0.00          |                        |                |                       |                |                       |             |                        |             |
| EQUI 196                                    | Thin Stillage Tank                      | 0.00            | 0.00                | 0.00            | 0.00          |                        |                |                       |                |                       |             |                        |             |
| EQUI 197, EQUI 211                          | Syrup Tank                              | 0.00            | 0.00                | 0.00            | 0.00          |                        |                |                       |                |                       |             |                        |             |
| EQUI219                                     | Make-Up Air Unit                        | 0.00            | 0.00                | 0.00            | 0.02          | 288.30                 | 1262.75        | 288.02                | 1261.51        | 0.01                  | 0.02        | 0.00                   | 0.00        |
| EQUI 36                                     | 190 Proof Ethanol Shift Tank (T801)     | 0.00            | 0.00                | 0.00            | 0.00          |                        |                |                       |                |                       |             |                        |             |
| EQUI 34                                     | 200 Proof Ethanol Storage Tank (T804)   |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| EQUI 35                                     | 200 Proof Ethanol Storage Tank (T806)   |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| EQUI 37                                     | 200 Proof Ethanol Storage Tank (T803)   |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| EQUI 38                                     | Denaturant Tank (T802)                  |                 |                     | 0.02            | 0.07          |                        |                |                       |                |                       |             |                        |             |
| EQUI 212                                    | Corrosion Inhibitor Storage Tank (T852) |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| <b>Total Point Sources</b>                  |                                         |                 | <b>184.92</b>       |                 | <b>460.51</b> | <b>47,938</b>          | <b>461,451</b> | <b>47,887</b>         | <b>461,229</b> | <b>0.93</b>           | <b>4.06</b> | <b>0.10</b>            | <b>0.43</b> |
| Fugitive Sources                            | Description                             | ghest HAP lb/hr | Acetaldehyd Unc tpy | Total HAP lb/hr | Unc tpy       | CO <sub>2e</sub> lb/hr | Unc tpy        | CO <sub>2</sub> lb/hr | Unc tpy        | CH <sub>4</sub> lb/hr | Unc tpy     | N <sub>2</sub> O lb/hr | Unc tpy     |
| FUGI 1                                      | Paved Roads                             |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| FUGI 7                                      | Tank Valves, Flanges & Seals            |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| FUGI 15, FUGI 16                            | Cooling Towers                          |                 |                     |                 |               |                        |                |                       |                |                       |             |                        |             |
| FUGI 13                                     | Tank Farm Equipment Fugitives           | 0.00            | 0.00                | 0.00            | 0.10          |                        |                |                       |                |                       |             |                        |             |
| FUGI 20                                     | Fermenter and Beerwell Leaks            | 0.02            | 0.09                | 0.02            | 0.12          |                        |                |                       |                |                       |             |                        |             |
| FUGI 12                                     | Wet Cake Production                     | 0.00            | 0.02                | 0.02            | 0.08          |                        |                |                       |                |                       |             |                        |             |
| <b>Total Fugitive Sources</b>               |                                         |                 | <b>0.11</b>         |                 | <b>0.30</b>   |                        | <b>0.00</b>    |                       | <b>0.00</b>    |                       | <b>0.00</b> |                        | <b>0.00</b> |

**POET Biorefining - Preston**  
**Preston, MN**  
**Emission Increases**

| Tempo ID<br>Emission Point/<br>Stack Vent   | Limited/Controlled Emissions<br><br>Description | TSP                 |         |              | PM10                |         |              | PM2.5               |        |                 | NOx                 |         |              | SOx                 |         |
|---------------------------------------------|-------------------------------------------------|---------------------|---------|--------------|---------------------|---------|--------------|---------------------|--------|-----------------|---------------------|---------|--------------|---------------------|---------|
|                                             |                                                 | Previous<br>Lim tpy | Lim tpy | Increase tpy | Previous<br>Lim tpy | Lim tpy | Increase tpy | Previous<br>Lim tpy | ton/yr | Increase<br>tpy | Previous<br>Lim tpy | Lim tpy | Increase tpy | Previous<br>Lim tpy | Lim tpy |
| STRU33                                      | Grain Receiving and Handling #1                 | 1.31                | 0.99    | -0.33        | 1.31                | 0.99    | -0.33        | 1.31                | 0.99   | -0.33           |                     | 0.00    |              |                     | 0.00    |
| STRU23                                      | Grain Receiving and Handling #2                 | 1.80                | 1.35    | -0.45        | 1.80                | 1.35    | -0.45        | 1.80                | 1.35   | -0.45           |                     | 0.00    |              |                     | 0.00    |
| EQUI176, EQUI178                            | Uncaptured Grain Receiving                      | 4.94                | 6.39    | 1.46         | 1.46                | 1.89    | 0.43         | 0.25                | 0.32   | 0.07            |                     | 0.00    |              |                     | 0.00    |
| STRU29                                      | Hammermill 1                                    | 1.80                | 1.35    | -0.45        | 1.80                | 1.35    | -0.45        | 1.80                | 1.35   | -0.45           |                     | 0.00    |              |                     | 0.00    |
| STRU30                                      | Hammermill 2                                    | 1.80                | 1.35    | -0.45        | 1.80                | 1.35    | -0.45        | 1.80                | 1.35   | -0.45           |                     | 0.00    |              |                     | 0.00    |
| STRU31                                      | Hammermill 3                                    | 1.80                | 1.35    | -0.45        | 1.80                | 1.35    | -0.45        | 1.80                | 1.35   | -0.45           |                     | 0.00    |              |                     | 0.00    |
| STRU32                                      | Hammermill 4                                    | 1.80                | 1.35    | -0.45        | 1.80                | 1.35    | -0.45        | 1.80                | 1.35   | -0.45           |                     | 0.00    |              |                     | 0.00    |
| STRU49                                      | Hammermill 5                                    |                     | 1.35    | 1.35         |                     | 1.35    | 1.35         |                     | 1.35   | 1.35            |                     | 0.00    |              |                     | 0.00    |
| STRU43                                      | Flour Receiver                                  | 0.62                | 0.62    |              | 0.62                | 0.62    |              | 0.62                | 0.62   |                 |                     | 0.00    |              |                     | 0.00    |
| STRU8                                       | Fermentation Scrubber Stack                     |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| STRU13                                      | Distillation Scrubber                           |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| STRU22                                      | RTO                                             | 52.56               | 59.13   | 6.57         | 52.56               | 59.13   | 6.57         | 52.56               | 59.13  | 6.57            | 41.43               | 52.38   | 10.95        | 30.00               | 219.00  |
| STRU50                                      | RTO (new)                                       |                     | 59.13   | 59.13        |                     | 59.13   | 59.13        |                     | 59.13  | 59.13           |                     | 52.38   | 52.38        |                     | 219.00  |
| STRU9                                       | Dryer 1 Emergency Bypass                        |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| STRU21                                      | Dryer 2 Emergency Bypass                        |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| STRU16                                      | Ethanol Loading Rack                            | 0.00                | 0.00    |              | 0.00                | 0.00    |              | 0.00                | 0.00   |                 | 0.57                | 0.74    | 0.18         | 0.00                | 0.00    |
| EQUI224                                     | Uncaptured Ethanol Loading Rack                 |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| STRU41                                      | Centrifuge Stack                                |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| STRU20                                      | DDG Fluid Bed Cooler                            | 12.01               | 9.01    | -3.00        | 12.01               | 9.01    | -3.00        | 12.01               | 9.01   | -3.00           |                     | 0.00    |              |                     | 3.68    |
| STRU17                                      | DDGS Storage Silo                               | 0.30                | 0.30    |              | 0.30                | 0.30    |              | 0.30                | 0.30   |                 |                     | 0.00    |              |                     | 0.10    |
| EQUI199, 5, 225, 177, 200, 8, 179, 201, 202 | Uncaptured DDGS Handling and Loadout            | 2.97                | 3.30    | 0.33         | 0.72                | 0.80    | 0.08         | 0.72                | 0.80   | 0.08            |                     | 0.00    |              |                     | 0.00    |
| STRU1                                       | Boiler #1                                       | 2.05                | 2.05    |              | 2.05                | 2.05    |              | 2.05                | 2.05   |                 | 11.01               | 11.01   |              | 0.16                | 0.16    |
| STRU34                                      | Boiler #2                                       | 2.39                | 2.39    |              | 2.39                | 2.39    |              | 2.39                | 2.39   |                 | 12.85               | 12.85   |              | 0.19                | 0.19    |
| STRU42                                      | Emergency Diesel Generator                      | 1.25                | 1.25    |              | 1.25                | 1.25    |              | 1.25                | 1.25   |                 | 15.23               | 15.23   |              | 3.02                | 3.02    |
| STRU46                                      | Whole Stillage Tank                             |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| STRU47                                      | Thin Stillage Tank                              |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| STRU48, STRU49                              | Syrup Tank                                      |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| EQUI219                                     | Make-Up Air Unit                                | 0.08                | 0.08    |              | 0.08                | 0.08    |              | 0.08                | 0.08   |                 | 1.06                | 1.06    |              | 0.01                | 0.01    |
| EQUI36                                      | 190 Proof Ethanol Shift Tank (T801)             |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| EQUI34                                      | 200 Proof Ethanol Storage Tank (T804)           |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| EQUI35                                      | 200 Proof Ethanol Storage Tank (T806)           |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| EQUI37                                      | 200 Proof Ethanol Storage Tank (T803)           |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| EQUI39                                      | Denaturant Tank (T802)                          |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| EQUI212                                     | Corrosion Inhibitor Storage Tank (T852)         |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| FUG1                                        | Paved Roads                                     | 4.85                | 9.99    | 5.15         | 0.97                | 2.00    | 1.03         | 0.24                | 0.49   | 0.25            |                     | 0.00    |              |                     | 0.00    |
| FUGi7                                       | Tank Valves, Flanges & Seals                    |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| FUGi15, FUGi16                              | Cooling Towers                                  | 2.47                | 3.95    | 1.48         | 1.86                | 2.98    | 1.12         | 0.01                | 0.01   | 0.00            |                     | 0.00    |              |                     | 0.00    |
| FUGi13                                      | Tank Farm Equipment Fugitives                   |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| FUGi17                                      | Fermenter and Beerwell Leaks                    |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| FUGi18                                      | Brewery Waste Receiving                         |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
| FUGi12                                      | Wet Cake Production                             |                     | 0.00    |              |                     | 0.00    |              |                     | 0.00   |                 |                     | 0.00    |              |                     | 0.00    |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |
|                                             |                                                 |                     |         |              |                     |         |              |                     |        |                 |                     |         |              |                     |         |

### Total Increases

**10.75**

**4.99**

**2.75**

11.12

**POET Biorefining - Preston**  
**Preston, MN**  
**Emission Increases**

| Tempo ID<br>Emission Point/<br>Stack Vent         | Limited/Controlled Emissions            | Increase<br>tpy | VOC                 |         |                 | CO                  |         |              | Acetaldehyde        |         |                 | Total HAP           |         |                 | Previous Lim<br>tpy |
|---------------------------------------------------|-----------------------------------------|-----------------|---------------------|---------|-----------------|---------------------|---------|--------------|---------------------|---------|-----------------|---------------------|---------|-----------------|---------------------|
|                                                   | Description                             |                 | Previous<br>Lim tpy | Lim tpy | Increase<br>tpy | Previous<br>Lim tpy | Lim tpy | Increase tpy | Previous Lim<br>tpy | Lim tpy | Increase<br>tpy | Previous Lim<br>tpy | Lim tpy | Increase<br>tpy |                     |
| STRU33                                            | Grain Receiving and Handling #1         |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU23                                            | Grain Receiving and Handling #2         |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| EQUI176, EQUI178                                  | Uncaptured Grain Receiving              |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU29                                            | Hammermill 1                            |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU30                                            | Hammermill 2                            |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU31                                            | Hammermill 3                            |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU32                                            | Hammermill 4                            |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU49                                            | Hammermill 5                            |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU43                                            | Flour Receiver                          |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU8                                             | Fermentation Scrubber Stack             |                 | 3.00                | 3.00    |                 |                     | 0.00    |              | 0.18                | 0.10    | -0.07           | 0.22                | 0.13    | -0.09           | 188707.16           |
| STRU13                                            | Distillation Scrubber                   |                 | 6.57                | 6.57    |                 |                     | 0.00    |              | 0.16                | 0.14    | -0.03           | 0.17                | 0.15    | -0.02           |                     |
| STRU22                                            | RTO                                     | 189.00          | 52.56               | 52.56   |                 | 57.38               | 57.38   |              | 4.53                | 4.53    |                 | 8.40                | 9.21    | 0.82            | 63,547              |
| STRU50                                            | RTO (new)                               | 219.00          |                     | 52.56   | 52.56           |                     | 57.38   | 57.38        |                     | 4.53    | 4.53            |                     | 9.31    | 0.91            |                     |
| STRU9                                             | Dryer 1 Emergency Bypass                |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU21                                            | Dryer 2 Emergency Bypass                |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| STRU16                                            | Ethanol Loading Rack                    |                 | 3.14                | 4.16    | 1.02            | 1.29                | 1.70    | 0.41         |                     | 0.00    |                 | 1.36                | 1.80    | 0.44            | 28.19               |
| EQUI224                                           | Uncaptured Ethanol Loading Rack         |                 | 1.26                | 1.68    | 0.41            |                     | 0.00    |              |                     | 0.00    |                 | 0.55                | 0.73    | 0.18            |                     |
| STRU41                                            | Centrifuge Stack                        |                 | 0.42                | 0.65    | 0.23            |                     | 0.00    |              | 0.01                | 0.06    | 0.05            | 0.01                | 0.06    | 0.05            |                     |
| STRU20                                            | DDG Fluid Bed Cooler                    | 3.68            | 35.04               | 35.04   |                 |                     | 0.00    |              | 2.19                | 0.34    | -1.85           | 3.94                | 0.99    | -2.95           |                     |
| STRU17                                            | DDGS Storage Silo                       | 0.10            |                     | 0.81    | 0.81            |                     | 0.00    |              |                     | 0.07    | 0.07            |                     | 0.29    | 0.29            |                     |
| EQUI199, 5, 225,<br>177, 200, 8, 179,<br>201, 202 | Uncaptured DDGS Handling and Loadout    |                 |                     | 7.30    | 7.30            |                     | 0.00    |              |                     | 0.61    | 0.61            |                     | 1.95    | 1.95            |                     |
| STRU1                                             | Boiler #1                               |                 | 1.48                | 1.48    |                 | 22.67               | 22.67   |              |                     | 0.00    |                 | 0.51                | 0.51    |                 | 32,213              |
| STRU34                                            | Boiler #2                               |                 | 1.73                | 1.73    |                 | 26.45               | 26.45   |              |                     | 0.00    |                 | 0.59                | 0.59    |                 | 37,587              |
| STRU42                                            | Emergency Diesel Generator              |                 | 0.27                | 0.27    |                 | 0.33                | 0.33    |              | 0.00                | 0.00    |                 | 0.00                | 0.00    |                 | 314                 |
| STRU46                                            | Whole Stillage Tank                     |                 | 0.08                | 0.08    |                 |                     | 0.00    |              | 0.00                | 0.00    |                 | 0.00                | 0.00    |                 |                     |
| STRU47                                            | Thin Stillage Tank                      |                 | 0.36                | 0.36    |                 |                     | 0.00    |              | 0.00                | 0.00    |                 | 0.00                | 0.00    |                 |                     |
| STRU48, STRU49                                    | Syrup Tank                              |                 | 0.44                | 0.44    |                 |                     | 0.00    |              | 0.00                | 0.00    |                 | 0.00                | 0.00    |                 |                     |
| EQUI219                                           | Make-Up Air Unit                        |                 | 0.06                | 0.06    |                 | 0.89                | 0.89    |              |                     | 0.00    |                 | 0.02                | 0.02    | 0.00            | 1262.75             |
| EQUI36                                            | 190 Proof Ethanol Shift Tank (T801)     |                 | 0.56                | 0.72    | 0.16            |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| EQUI34                                            | 200 Proof Ethanol Storage Tank (T804)   |                 | 0.30                | 0.46    | 0.16            |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| EQUI35                                            | 200 Proof Ethanol Storage Tank (T806)   |                 | 0.20                | 0.26    | 0.05            |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| EQUI37                                            | 200 Proof Ethanol Storage Tank (T803)   |                 | 0.30                | 0.46    | 0.16            |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| EQUI39                                            | Denaturant Tank (T802)                  |                 | 1.02                | 1.22    | 0.20            |                     | 0.00    |              |                     | 0.00    |                 | 0.06                | 0.07    | 0.01            |                     |
| EQUI212                                           | Corrosion Inhibitor Storage Tank (T852) |                 | 0.28                | 0.28    |                 |                     | 0.00    |              |                     | 0.00    |                 | 0.03                | 0.03    |                 |                     |
| FUGI1                                             | Paved Roads                             |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| FUGI7                                             | Tank Valves, Flanges & Seals            |                 | 9.33                | 11.16   | 1.83            |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| FUGI15, FUGI16                                    | Cooling Towers                          |                 |                     | 0.00    |                 |                     | 0.00    |              |                     | 0.00    |                 |                     | 0.00    |                 |                     |
| FUGI13                                            | Tank Farm Equipment Fugitives           | 3.52            |                     | 3.66    |                 |                     | 0.00    |              | 0.00                | 0.00    | 0.00            | 0.09                | 0.10    | 0.01            |                     |
| FUGI17                                            | Fermenter and Beerwell Leaks            |                 |                     | 18.95   | 18.95           |                     | 0.00    |              |                     | 0.07    | 0.07            |                     | 0.09    | 0.09            |                     |
| FUGI18                                            | Brewery Waste Receiving                 |                 |                     | 1.26    | 1.26            |                     | 0.00    |              |                     | 0.01    | 0.01            |                     | 0.01    | 0.01            |                     |
| FUGI12                                            | Wet Cake Production                     |                 | 1.74                | 1.74    |                 |                     | 0.00    |              | 0.02                | 0.02    |                 | 0.08                | 0.08    |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
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|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |
|                                                   |                                         |                 |                     |         |                 |                     |         |              |                     |         |                 |                     |         |                 |                     |

**POET Biorefining - Preston**  
**Preston, MN**  
**Emission Increases**

| Tempo ID<br>Emission Point/<br>Stack Vent         | Limited/Controlled Emissions<br>Description | CO2e      |              | Previous Lim<br>tpy | CO2       |              | Previous<br>Lim tpy | CH4     |              | Previous<br>Lim tpy | N2O     |              |
|---------------------------------------------------|---------------------------------------------|-----------|--------------|---------------------|-----------|--------------|---------------------|---------|--------------|---------------------|---------|--------------|
|                                                   |                                             | Lim tpy   | Increase tpy |                     | Lim tpy   | Increase tpy |                     | Lim tpy | Increase tpy |                     | Lim tpy | Increase tpy |
| STRU33                                            | Grain Receiving and Handling #1             | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU23                                            | Grain Receiving and Handling #2             | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| EQUI176, EQUI178                                  | Uncaptured Grain Receiving                  | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU29                                            | Hammermill 1                                | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU30                                            | Hammermill 2                                | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU31                                            | Hammermill 3                                | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU32                                            | Hammermill 4                                | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU49                                            | Hammermill 5                                | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU43                                            | Flour Receiver                              | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU8                                             | Fermentation Scrubber Stack                 | 251609.54 | 62,902       | 188707.16           | 251609.54 | 62,902       |                     | 0.00    |              |                     | 0.00    |              |
| STRU13                                            | Distillation Scrubber                       | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU22                                            | RTO                                         | 63547.43  |              | 63,485              | 63485.30  |              | 1.19                | 1.19    |              | 0.12                | 0.12    |              |
| STRU50                                            | RTO (new)                                   | 69697.18  | 6149.75      |                     | 69629.04  | 6143.74      |                     | 1.31    | 0.12         |                     | 0.13    | 0.01         |
| STRU9                                             | Dryer 1 Emergency Bypass                    | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU21                                            | Dryer 2 Emergency Bypass                    | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU16                                            | Ethanol Loading Rack                        | 28.19     |              | 28.16               | 28.16     |              | 0.00                | 0.00    |              | 0.00                | 0.00    |              |
| EQUI224                                           | Uncaptured Ethanol Loading Rack             | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU41                                            | Centrifuge Stack                            | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU20                                            | DDG Fluid Bed Cooler                        | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU17                                            | DDGS Storage Silo                           | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| EQUI199, 5, 225,<br>177, 200, 8, 179,<br>201, 202 | Uncaptured DDGS Handling and Loadout        | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU1                                             | Boiler #1                                   | 32212.56  |              | 32,179              | 32179.37  |              | 0.61                | 0.61    |              | 0.06                | 0.06    |              |
| STRU34                                            | Boiler #2                                   | 37586.70  |              | 37,548              | 37547.97  |              | 0.71                | 0.71    |              | 0.07                | 0.07    |              |
| STRU42                                            | Emergency Diesel Generator                  | 314.30    |              | 313                 | 313.22    |              | 0.01                | 0.01    |              | 0.00                | 0.00    |              |
| STRU46                                            | Whole Stillage Tank                         | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU47                                            | Thin Stillage Tank                          | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| STRU48, STRU49                                    | Syrup Tank                                  | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| EQUI219                                           | Make-Up Air Unit                            | 1262.75   |              | 1261.51             | 1261.51   |              | 0.02                | 0.02    |              | 0.00                | 0.00    |              |
| EQUI36                                            | 190 Proof Ethanol Shift Tank (T801)         | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| EQUI34                                            | 200 Proof Ethanol Storage Tank (T804)       | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| EQUI35                                            | 200 Proof Ethanol Storage Tank (T806)       | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| EQUI37                                            | 200 Proof Ethanol Storage Tank (T803)       | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| EQUI39                                            | Denaturant Tank (T802)                      | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| EQUI212                                           | Corrosion Inhibitor Storage Tank (T852)     | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| FUG1                                              | Paved Roads                                 | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| FUG17                                             | Tank Valves, Flanges & Seals                | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| FUG15, FUG16                                      | Cooling Towers                              | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| FUG13                                             | Tank Farm Equipment Fugitives               | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| FUG17                                             | Fermenter and Beerwell Leaks                | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| FUG18                                             | Brewery Waste Receiving                     | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
| FUG12                                             | Wet Cake Production                         | 0.00      |              |                     | 0.00      |              |                     | 0.00    |              |                     | 0.00    |              |
|                                                   |                                             |           |              |                     |           |              |                     |         |              |                     |         |              |
|                                                   |                                             |           |              |                     |           |              |                     |         |              |                     |         |              |
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|                                                   |                                             |           |              |                     |           |              |                     |         |              |                     |         |              |

**POET Biorefining - Preston**  
**Preston, MN**  
**Potential HAP Emission Summary**

| HAP Name               | CAS #      | COMG 14                     |             |             | COMG 15               |             |             | STRU22/STRU50 |               |             | EQUI 67, 71          |              |             | EQUI 67, 71                     |              |             |
|------------------------|------------|-----------------------------|-------------|-------------|-----------------------|-------------|-------------|---------------|---------------|-------------|----------------------|--------------|-------------|---------------------------------|--------------|-------------|
|                        |            | Fermentation Scrubber Stack |             |             | Distillation Scrubber |             |             | RTO           |               |             | Ethanol Loading Rack |              |             | Uncaptured Ethanol Loading Rack |              |             |
|                        |            | lb/hr                       | Unc tpy     | Lim tpy     | lb/hr                 | Unc tpy     | Lim tpy     | lb/hr         | Unc tpy       | Lim tpy     | lb/hr                | Unc tpy      | Lim tpy     | lb/hr                           | Unc tpy      | Lim tpy     |
| Acetaldehyde           | 75-07-0    | 4.08E-01                    | 2.72E+00    | 1.02E-01    | 3.18E-02              | 9.27E-01    | 1.39E-01    | 1.04E+00      | 9.07E+01      | 4.53E+00    | -                    | -            | -           | -                               | -            | -           |
| Acrolein               | 107-02-8   | 4.62E-02                    | 6.84E-02    | 1.15E-02    | 1.23E-03              | 7.98E-03    | 5.38E-03    | 1.54E-01      | 1.35E+01      | 6.74E-01    | -                    | -            | -           | -                               | -            | -           |
| Arsenic                | 7440-38-2  | -                           | -           | -           | -                     | -           | -           | 2.67E-05      | 1.17E-04      | 1.17E-04    | -                    | -            | -           | -                               | -            | -           |
| Benzene                | 71-43-2    | -                           | -           | -           | -                     | -           | -           | 7.27E-05      | 1.23E-03      | 3.18E-04    | 1.340E-01            | 4.821E+00    | 9.565E-02   | 5.404E-02                       | 4.821E+00    | 3.857E-02   |
| Beryllium              | 7440-41-7  | -                           | -           | -           | -                     | -           | -           | 1.60E-06      | 7.01E-06      | 7.01E-06    | -                    | -            | -           | -                               | -            | -           |
| Cadmium                | 7440-43-7  | -                           | -           | -           | -                     | -           | -           | 1.47E-04      | 6.42E-04      | 6.42E-04    | -                    | -            | -           | -                               | -            | -           |
| Carbon Disulfide       | 75-15-0    | -                           | -           | -           | -                     | -           | -           | 5.65E-02      | 4.95E+00      | 2.47E-01    | -                    | -            | -           | -                               | -            | -           |
| Carbonyl Sulfide       |            |                             |             |             |                       |             |             | 3.13E-02      | 2.74E+00      | 1.37E-01    |                      |              |             |                                 |              |             |
| Chromium               | 7440-47-3  | -                           | -           | -           | -                     | -           | -           | 1.87E-04      | 8.18E-04      | 8.18E-04    | -                    | -            | -           | -                               | -            | -           |
| Cobalt                 | 7440-48-4  | -                           | -           | -           | -                     | -           | -           | 1.12E-05      | 4.91E-05      | 4.91E-05    | -                    | -            | -           | -                               | -            | -           |
| Cumene                 | 98-82-8    | -                           | -           | -           | -                     | -           | -           | -             | -             | -           | 5.826E-02            | 2.096E+00    | 4.159E-02   | 2.349E-02                       | 2.096E+00    | 1.677E-02   |
| Ethylbenzene           | 100-41-4   | -                           | -           | -           | -                     | -           | -           | -             | -             | -           | 1.165E-01            | 4.192E+00    | 8.318E-02   | 4.699E-02                       | 4.192E+00    | 3.354E-02   |
| Formaldehyde           | 50-00-0    | 7.69E-03                    | 5.13E-02    | 1.92E-03    | 7.89E-04              | 2.30E-02    | 3.46E-03    | 6.00E-01      | 5.26E+01      | 2.63E+00    | -                    | -            | -           | -                               | -            | -           |
| Hexane                 | 110-54-3   | -                           | -           | -           | -                     | -           | -           | 6.23E-02      | 1.05E+00      | 2.73E-01    | 4.079E-01            | 1.467E+01    | 2.911E-01   | 1.645E-01                       | 1.467E+01    | 1.174E-01   |
| Lead                   | NA         | -                           | -           | -           | -                     | -           | -           | 6.67E-05      | 2.92E-04      | 2.92E-04    | -                    | -            | -           | -                               | -            | -           |
| Manganese              | 7439-96-5  | -                           | -           | -           | -                     | -           | -           | 5.07E-05      | 2.22E-04      | 2.22E-04    | -                    | -            | -           | -                               | -            | -           |
| Mercury                | 7439-97-6  | -                           | -           | -           | -                     | -           | -           | 3.47E-05      | 1.52E-04      | 1.52E-04    | -                    | -            | -           | -                               | -            | -           |
| Methanol               | 67-56-1    | 4.62E-02                    | 9.23E-01    | 1.15E-02    | 1.02E-03              | 8.97E-02    | 4.49E-03    | 1.85E-01      | 1.62E+01      | 8.08E-01    | -                    | -            | -           | -                               | -            | -           |
| Naphthalene            | 91-20-3    | -                           | -           | -           | -                     | -           | -           | 2.11E-05      | 3.56E-04      | 9.25E-05    | 5.826E-02            | 2.096E+00    | 4.159E-02   | 2.349E-02                       | 2.096E+00    | 1.677E-02   |
| Nickel                 | 7440-02-0  | -                           | -           | -           | -                     | -           | -           | 2.80E-04      | 1.23E-03      | 1.23E-03    | -                    | -            | -           | -                               | -            | -           |
| Propionaldehyde        | 123-38-6   | -                           | -           | -           | -                     | -           | -           | -             | -             | -           | -                    | -            | -           | -                               | -            | -           |
| Selenium               | 7782-49-2  | -                           | -           | -           | -                     | -           | -           | 3.33E-06      | 1.46E-05      | 1.46E-05    | -                    | -            | -           | -                               | -            | -           |
| Toluene                | 108-88-3   | -                           | -           | -           | -                     | -           | -           | 1.18E-04      | 1.99E-03      | 5.15E-04    | 8.740E-01            | 3.144E+01    | 6.238E-01   | 3.524E-01                       | 3.144E+01    | 2.515E-01   |
| Xylenes                | 1330-20-7  | -                           | -           | -           | -                     | -           | -           | 0.00E+00      | 0.00E+00      | 0.00E+00    | 8.740E-01            | 3.144E+01    | 6.238E-01   | 3.524E-01                       | 3.144E+01    | 2.515E-01   |
| 1,1,1 Trichloroethane  | 71-55-6    | -                           | -           | -           | -                     | -           | -           | 0.00E+00      | 0.00E+00      | 0.00E+00    | -                    | -            | -           | -                               | -            | -           |
| 2-Methylnaphthalene    | 91-57-6    |                             |             |             |                       |             |             | 8.31E-07      | 1.40E-05      | 3.64E-06    |                      |              |             |                                 |              |             |
| 3-Methylchloranthrene  | 56-49-5    |                             |             |             |                       |             |             | 6.23E-08      | 1.05E-06      | 2.73E-07    |                      |              |             |                                 |              |             |
| 7,12-Dimethylbenz(a)an | NA         |                             |             |             |                       |             |             | 5.54E-08      | 9.34E-07      | 2.43E-07    |                      |              |             |                                 |              |             |
| Acenaphthene           | 83-32-9    |                             |             |             |                       |             |             | 6.23E-08      | 1.05E-06      | 2.73E-07    |                      |              |             |                                 |              |             |
| Acenaphthylene         | 203-96-8   |                             |             |             |                       |             |             | 6.23E-08      | 1.05E-06      | 2.73E-07    |                      |              |             |                                 |              |             |
| Anthracene             | 120-12-7   |                             |             |             |                       |             |             | 8.31E-08      | 1.40E-06      | 3.64E-07    |                      |              |             |                                 |              |             |
| Benz(a)anthracene      | 56-55-3    |                             |             |             |                       |             |             | 6.23E-08      | 1.05E-06      | 2.73E-07    |                      |              |             |                                 |              |             |
| Benzo(a)pyrene         | 50-32-8    |                             |             |             |                       |             |             | 4.15E-08      | 7.01E-07      | 1.82E-07    |                      |              |             |                                 |              |             |
| Benzo(b)fluoranthene   | 205-99-2   |                             |             |             |                       |             |             | 6.23E-08      | 1.05E-06      | 2.73E-07    |                      |              |             |                                 |              |             |
| Benzo(g,h,i)perylene   | 191-24-2   |                             |             |             |                       |             |             | 4.15E-08      | 7.01E-07      | 1.82E-07    |                      |              |             |                                 |              |             |
| Benzo(k)fluoranthene   | 207-08-9   |                             |             |             |                       |             |             | 6.23E-08      | 1.05E-06      | 2.73E-07    |                      |              |             |                                 |              |             |
| Chrysene               | 218-01-9   |                             |             |             |                       |             |             | 6.23E-08      | 1.05E-06      | 2.73E-07    |                      |              |             |                                 |              |             |
| Dibenzo(a,h)anthracene | 53-70-3    |                             |             |             |                       |             |             | 4.15E-08      | 7.01E-07      | 1.82E-07    |                      |              |             |                                 |              |             |
| Dichlorobenzene        | 25321-22-6 |                             |             |             |                       |             |             | 4.15E-05      | 7.01E-04      | 1.82E-04    |                      |              |             |                                 |              |             |
| Fluoranthene           | 206-44-0   |                             |             |             |                       |             |             | 1.04E-07      | 1.75E-06      | 4.55E-07    |                      |              |             |                                 |              |             |
| Fluorene               | 86-73-7    |                             |             |             |                       |             |             | 9.69E-08      | 1.64E-06      | 4.24E-07    |                      |              |             |                                 |              |             |
| Indeno(1,2,3-cd)pyrene | 193-39-5   |                             |             |             |                       |             |             | 6.23E-08      | 1.05E-06      | 2.73E-07    |                      |              |             |                                 |              |             |
| Phenanthrene           | 85-01-8    |                             |             |             |                       |             |             | 5.88E-07      | 9.93E-06      | 2.58E-06    |                      |              |             |                                 |              |             |
| Pyrene                 | 129-00-0   |                             |             |             |                       |             |             | 1.73E-07      | 2.92E-06      | 7.58E-07    |                      |              |             |                                 |              |             |
| <b>Total HAP</b>       |            | <b>0.51</b>                 | <b>3.76</b> | <b>0.13</b> | <b>0.03</b>           | <b>1.05</b> | <b>0.15</b> | <b>2.12</b>   | <b>181.61</b> | <b>9.31</b> | <b>2.52</b>          | <b>90.77</b> | <b>1.80</b> | <b>1.02</b>                     | <b>90.77</b> | <b>0.73</b> |



**POET Biorefining - Preston**  
**Preston, MN**  
**Potential HAP Emission Summary**

| HAP Name               | CAS #      | COMG 20          |             |             | EQUI 23              |             |             | COMG 17           |             |             | EQUI199, 5, 225, 177, 200, 8, 179, 201, |             |             | EQUI 14     |             |             |
|------------------------|------------|------------------|-------------|-------------|----------------------|-------------|-------------|-------------------|-------------|-------------|-----------------------------------------|-------------|-------------|-------------|-------------|-------------|
|                        |            | Centrifuge Stack |             |             | DDG Fluid Bed Cooler |             |             | DDGS Storage Silo |             |             | Uncaptured DDGS Handling and Loadout    |             |             | Boiler #1   |             |             |
|                        |            | lb/hr            | Unc tpy     | Lim tpy     | lb/hr                | Unc tpy     | Lim tpy     | lb/hr             | Unc tpy     | Lim tpy     | lb/hr                                   | Unc tpy     | Lim tpy     | lb/hr       | Unc tpy     | Lim tpy     |
| Acetaldehyde           | 75-07-0    | 2.201E-01        | 9.638E-01   | 5.501E-02   | 7.693E-02            | 3.369E-01   | 3.369E-01   | 1.948E-02         | 8.531E-02   | 6.754E-02   | 5.156E-01                               | 2.258E+00   | 6.079E-01   | -           | -           | -           |
| Acrolein               | 107-02-8   | 1.426E-02        | 6.247E-02   | 3.566E-03   | 3.846E-02            | 1.685E-01   | 1.685E-01   | 1.769E-02         | 7.748E-02   | 6.134E-02   | 4.682E-01                               | 2.051E+00   | 5.520E-01   | -           | -           | -           |
| Arsenic                | 7440-38-2  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 1.232E-05   | 5.398E-05   | 5.398E-05   |
| Benzene                | 71-43-2    | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 1.294E-04   | 5.668E-04   | 5.668E-04   |
| Beryllium              | 7440-41-7  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 7.394E-07   | 3.239E-06   | 3.239E-06   |
| Cadmium                | 7440-43-7  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 6.778E-05   | 2.969E-04   | 2.969E-04   |
| Carbon Disulfide       | 75-15-0    | -                | -           | -           | 1.860E-02            | 8.147E-02   | 8.147E-02   | 9.300E-03         | 4.073E-02   | 4.073E-02   |                                         |             |             | 0.000E+00   | 0.000E+00   | 0.000E+00   |
| Carbonyl Sulfide       |            |                  |             |             | 1.560E-02            | 6.833E-02   | 6.833E-02   | 7.800E-03         | 3.416E-02   | 3.416E-02   |                                         |             |             |             |             |             |
| Chromium               | 7440-47-3  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 8.627E-05   | 3.779E-04   | 3.779E-04   |
| Cobalt                 | 7440-48-4  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 5.176E-06   | 2.267E-05   | 2.267E-05   |
| Cumene                 | 98-82-8    | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | -           | -           | -           |
| Ethylbenzene           | 100-41-4   | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | -           | -           | -           |
| Formaldehyde           | 50-00-0    | 2.717E-03        | 1.190E-02   | 6.792E-04   | 1.923E-02            | 8.424E-02   | 8.424E-02   | 3.578E-03         | 1.567E-02   | 1.241E-02   | 9.470E-02                               | 4.148E-01   | 1.116E-01   | 4.622E-03   | 2.024E-02   | 2.024E-02   |
| Hexane                 | 110-54-3   | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 1.109E-01   | 4.858E-01   | 4.858E-01   |
| Lead                   | NA         | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 3.081E-05   | 1.349E-04   | 1.349E-04   |
| Manganese              | 7439-96-5  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 2.342E-05   | 1.026E-04   | 1.026E-04   |
| Mercury                | 7439-97-6  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 1.602E-05   | 7.017E-05   | 7.017E-05   |
| Methanol               | 67-56-1    | 5.433E-03        | 2.380E-02   | 1.358E-03   | 5.770E-02            | 2.527E-01   | 2.527E-01   | 2.186E-02         | 9.576E-02   | 7.581E-02   | 5.787E-01                               | 2.535E+00   | 6.823E-01   | -           | -           | -           |
| Naphthalene            | 91-20-3    | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 3.759E-05   | 1.646E-04   | 1.646E-04   |
| Nickel                 | 7440-02-0  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 1.294E-04   | 5.668E-04   | 5.668E-04   |
| Propionaldehyde        | 123-38-6   | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | -           | -           | -           |
| Selenium               | 7782-49-2  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 1.541E-06   | 6.747E-06   | 6.747E-06   |
| Toluene                | 108-88-3   | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 2.095E-04   | 9.177E-04   | 9.177E-04   |
| Xylenes                | 1330-20-7  | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 0.000E+00   | 0.000E+00   | 0.000E+00   |
| 1,1,1 Trichloroethane  | 71-55-6    | -                | -           | -           | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 0.000E+00   | 0.000E+00   | 0.000E+00   |
| 2-Methylnaphthalene    | 91-57-6    |                  |             |             | 0.000E+00            | 0.000E+00   | 0.000E+00   | 0.000E+00         | 0.000E+00   | 0.000E+00   |                                         |             |             | 1.479E-06   | 6.478E-06   | 6.478E-06   |
| 3-Methylchloranthrene  | 56-49-5    |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.109E-07   | 4.858E-07   | 4.858E-07   |
| 7,12-Dimethylbenz(a)an | NA         |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 9.859E-08   | 4.318E-07   | 4.318E-07   |
| Acenaphthene           | 83-32-9    |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.109E-07   | 4.858E-07   | 4.858E-07   |
| Acenaphthylene         | 203-96-8   |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.109E-07   | 4.858E-07   | 4.858E-07   |
| Anthracene             | 120-12-7   |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.479E-07   | 6.478E-07   | 6.478E-07   |
| Benz(a)anthracene      | 56-55-3    |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.109E-07   | 4.858E-07   | 4.858E-07   |
| Benzo(a)pyrene         | 50-32-8    |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 7.394E-08   | 3.239E-07   | 3.239E-07   |
| Benzo(b)fluoranthene   | 205-99-2   |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.109E-07   | 4.858E-07   | 4.858E-07   |
| Benzo(g,h,i)perylene   | 191-24-2   |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 7.394E-08   | 3.239E-07   | 3.239E-07   |
| Benzo(k)fluoranthene   | 207-08-9   |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.109E-07   | 4.858E-07   | 4.858E-07   |
| Chrysene               | 218-01-9   |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.109E-07   | 4.858E-07   | 4.858E-07   |
| Dibenzo(a,h)anthracene | 53-70-3    |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 7.394E-08   | 3.239E-07   | 3.239E-07   |
| Dichlorobenzene        | 25321-22-6 |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 7.394E-05   | 3.239E-04   | 3.239E-04   |
| Fluoranthene           | 206-44-0   |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.849E-07   | 8.097E-07   | 8.097E-07   |
| Fluorene               | 86-73-7    |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.725E-07   | 7.557E-07   | 7.557E-07   |
| Indeno(1,2,3-cd)pyrene | 193-39-5   |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.109E-07   | 4.858E-07   | 4.858E-07   |
| Phenanthrene           | 85-01-8    |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 1.048E-06   | 4.588E-06   | 4.588E-06   |
| Pyrene                 | 129-00-0   |                  |             |             |                      |             |             |                   |             |             |                                         |             |             | 3.081E-07   | 1.349E-06   | 1.349E-06   |
| <b>Total HAP</b>       |            | <b>0.24</b>      | <b>1.06</b> | <b>0.06</b> | <b>0.23</b>          | <b>0.99</b> | <b>0.99</b> | <b>0.08</b>       | <b>0.35</b> | <b>0.29</b> | <b>1.66</b>                             | <b>7.26</b> | <b>1.95</b> | <b>0.12</b> | <b>0.51</b> | <b>0.51</b> |

**POET Biorefining - Preston**  
**Preston, MN**  
**Potential HAP Emission Summary**

TK008 is not in service

| HAP Name               | CAS #      | EQUI 9      |             |             | EQUI 218                   |             |             |
|------------------------|------------|-------------|-------------|-------------|----------------------------|-------------|-------------|
|                        |            | Boiler #2   |             |             | Emergency Diesel Generator |             |             |
|                        |            | lb/hr       | Unc tpy     | Lim tpy     | lb/hr                      | Unc tpy     | Lim tpy     |
| Acetaldehyde           | 75-07-0    | -           | -           | -           | 1.936E-04                  | 8.481E-04   | 4.841E-05   |
| Acrolein               | 107-02-8   | -           | -           | -           | 6.055E-05                  | 2.652E-04   | 1.514E-05   |
| Arsenic                | 7440-38-2  | 1.438E-05   | 6.299E-05   | 6.299E-05   | 0.000E+00                  | 0.000E+00   | 0.000E+00   |
| Benzene                | 71-43-2    | 1.510E-04   | 6.613E-04   | 6.613E-04   | 5.963E-03                  | 2.612E-02   | 1.491E-03   |
| Beryllium              | 7440-41-7  | 8.628E-07   | 3.779E-06   | 3.779E-06   | -                          | -           | -           |
| Cadmium                | 7440-43-7  | 7.909E-05   | 3.464E-04   | 3.464E-04   | -                          | -           | -           |
| Carbon Disulfide       | 75-15-0    | 0.000E+00   | 0.000E+00   | 0.000E+00   | -                          | -           | -           |
| Carbonyl Sulfide       |            |             |             |             |                            |             |             |
| Chromium               | 7440-47-3  | 1.007E-04   | 4.409E-04   | 4.409E-04   | -                          | -           | -           |
| Cobalt                 | 7440-48-4  | 6.040E-06   | 2.645E-05   | 2.645E-05   | -                          | -           | -           |
| Cumene                 | 98-82-8    | -           | -           | -           | -                          | -           | -           |
| Ethylbenzene           | 100-41-4   | -           | -           | -           | -                          | -           | -           |
| Formaldehyde           | 50-00-0    | 5.393E-03   | 2.362E-02   | 2.362E-02   | 6.063E-04                  | 2.655E-03   | 1.516E-04   |
| Hexane                 | 110-54-3   | 1.294E-01   | 5.669E-01   | 5.669E-01   | -                          | -           | -           |
| Lead                   | NA         | 3.595E-05   | 1.575E-04   | 1.575E-04   | -                          | -           | -           |
| Manganese              | 7439-96-5  | 2.732E-05   | 1.197E-04   | 1.197E-04   | -                          | -           | -           |
| Mercury                | 7439-97-6  | 1.869E-05   | 8.188E-05   | 8.188E-05   | -                          | -           | -           |
| Methanol               | 67-56-1    | -           | -           | -           | -                          | -           | -           |
| Naphthalene            | 91-20-3    | 4.386E-05   | 1.921E-04   | 1.921E-04   | 9.989E-04                  | 4.375E-03   | 2.497E-04   |
| Nickel                 | 7440-02-0  | 1.510E-04   | 6.613E-04   | 6.613E-04   | -                          | -           | -           |
| Propionaldehyde        | 123-38-6   | -           | -           | -           | -                          | -           | -           |
| Selenium               | 7782-49-2  | 1.798E-06   | 7.873E-06   | 7.873E-06   | -                          | -           | -           |
| Toluene                | 108-88-3   | 2.445E-04   | 1.071E-03   | 1.071E-03   | 2.159E-03                  | 9.457E-03   | 5.398E-04   |
| Xylenes                | 1330-20-7  | 0.000E+00   | 0.000E+00   | 0.000E+00   | 1.483E-03                  | 6.496E-03   | 3.708E-04   |
| 1,1,1 Trichloroethane  | 71-55-6    | 0.000E+00   | 0.000E+00   | 0.000E+00   | -                          | -           | -           |
| 2-Methylnaphthalene    | 91-57-6    | 1.726E-06   | 7.558E-06   | 7.558E-06   |                            |             |             |
| 3-Methylchloranthrene  | 56-49-5    | 1.294E-07   | 5.669E-07   | 5.669E-07   |                            |             |             |
| 7,12-Dimethylbenz(a)an | NA         | 1.150E-07   | 5.039E-07   | 5.039E-07   |                            |             |             |
| Acenaphthene           | 83-32-9    | 1.294E-07   | 5.669E-07   | 5.669E-07   |                            |             |             |
| Acenaphthylene         | 203-96-8   | 1.294E-07   | 5.669E-07   | 5.669E-07   |                            |             |             |
| Anthracene             | 120-12-7   | 1.726E-07   | 7.558E-07   | 7.558E-07   |                            |             |             |
| Benz(a)anthracene      | 56-55-3    | 1.294E-07   | 5.669E-07   | 5.669E-07   |                            |             |             |
| Benzo(a)pyrene         | 50-32-8    | 8.628E-08   | 3.779E-07   | 3.779E-07   |                            |             |             |
| Benzo(b)fluoranthene   | 205-99-2   | 1.294E-07   | 5.669E-07   | 5.669E-07   |                            |             |             |
| Benzo(g,h,i)perylene   | 191-24-2   | 8.628E-08   | 3.779E-07   | 3.779E-07   |                            |             |             |
| Benzo(k)fluoranthene   | 207-08-9   | 1.294E-07   | 5.669E-07   | 5.669E-07   |                            |             |             |
| Chrysene               | 218-01-9   | 1.294E-07   | 5.669E-07   | 5.669E-07   |                            |             |             |
| Dibenzo(a,h)anthracene | 53-70-3    | 8.628E-08   | 3.779E-07   | 3.779E-07   |                            |             |             |
| Dichlorobenzene        | 25321-22-6 | 8.628E-05   | 3.779E-04   | 3.779E-04   |                            |             |             |
| Fluoranthene           | 206-44-0   | 2.157E-07   | 9.448E-07   | 9.448E-07   |                            |             |             |
| Fluorene               | 86-73-7    | 2.013E-07   | 8.818E-07   | 8.818E-07   |                            |             |             |
| Indeno(1,2,3-cd)pyrene | 193-39-5   | 1.294E-07   | 5.669E-07   | 5.669E-07   |                            |             |             |
| Phenanthrene           | 85-01-8    | 1.222E-06   | 5.354E-06   | 5.354E-06   |                            |             |             |
| Pyrene                 | 129-00-0   | 3.595E-07   | 1.575E-06   | 1.575E-06   |                            |             |             |
| <b>Total HAP</b>       |            | <b>0.14</b> | <b>0.59</b> | <b>0.59</b> | <b>0.01</b>                | <b>0.05</b> | <b>0.00</b> |

**POET Biorefining - Preston**  
**Preston, MN**  
**Potential HAP Emission Summary**

| HAP Name               | CAS #      | EQUI 195            |             |             | EQUI 196           |             |             | EQUI 197, EQUI 211 |             |             | EQUI 38                |             |             | EQUI 212                                |             |             |
|------------------------|------------|---------------------|-------------|-------------|--------------------|-------------|-------------|--------------------|-------------|-------------|------------------------|-------------|-------------|-----------------------------------------|-------------|-------------|
|                        |            | Whole Stillage Tank |             |             | Thin Stillage Tank |             |             | Syrup Tank         |             |             | Denaturant Tank (T802) |             |             | Corrosion Inhibitor Storage Tank (T852) |             |             |
|                        |            | lb/hr               | Unc tpy     | Lim tpy     | lb/hr              | Unc tpy     | Lim tpy     | lb/hr              | Unc tpy     | Lim tpy     | lb/hr                  | Unc tpy     | Lim tpy     | lb/hr                                   | Unc tpy     | Lim tpy     |
| Acetaldehyde           | 75-07-0    | 7.367E-05           | 3.227E-04   | 3.227E-04   | 3.317E-04          | 1.453E-03   | 1.453E-03   | 3.967E-04          | 1.738E-03   | 1.738E-03   | -                      | -           | -           | -                                       | -           | -           |
| Acrolein               | 107-02-8   | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Arsenic                | 7440-38-2  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Benzene                | 71-43-2    | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | 1.72E-03               | 7.54E-03    | 7.54E-03    | -                                       | -           | -           |
| Beryllium              | 7440-41-7  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Cadmium                | 7440-43-7  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Carbon Disulfide       | 75-15-0    | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Carbonyl Sulfide       |            |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Chromium               | 7440-47-3  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Cobalt                 | 7440-48-4  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Cumene                 | 98-82-8    | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Ethylbenzene           | 100-41-4   | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | 1.03E-05                                | 4.50E-05    | 4.50E-05    |
| Formaldehyde           | 50-00-0    | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Hexane                 | 110-54-3   | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | 1.38E-02               | 6.05E-02    | 6.05E-02    | -                                       | -           | -           |
| Lead                   | NA         | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Manganese              | 7439-96-5  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Mercury                | 7439-97-6  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Methanol               | 67-56-1    | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | 6.82E-03                                | 2.99E-02    | 2.99E-02    |
| Naphthalene            | 91-20-3    | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Nickel                 | 7440-02-0  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Propionaldehyde        | 123-38-6   | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Selenium               | 7782-49-2  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| Toluene                | 108-88-3   | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | 4.28E-04               | 1.87E-03    | 1.87E-03    | -                                       | -           | -           |
| Xylenes                | 1330-20-7  | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | 4.45E-05                                | 1.95E-04    | 1.95E-04    |
| 1,1,1 Trichloroethane  | 71-55-6    | -                   | -           | -           | -                  | -           | -           | -                  | -           | -           | -                      | -           | -           | -                                       | -           | -           |
| 2-Methylnaphthalene    | 91-57-6    |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| 3-Methylchloranthrene  | 56-49-5    |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| 7,12-Dimethylbenz(a)an | NA         |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Acenaphthene           | 83-32-9    |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Acenaphthylene         | 203-96-8   |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Anthracene             | 120-12-7   |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Benz(a)anthracene      | 56-55-3    |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Benzo(a)pyrene         | 50-32-8    |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Benzo(b)fluoranthene   | 205-99-2   |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Benzo(g,h,i)perylene   | 191-24-2   |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Benzo(k)fluoranthene   | 207-08-9   |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Chrysene               | 218-01-9   |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Dibenzo(a,h)anthracene | 53-70-3    |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Dichlorobenzene        | 25321-22-6 |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Fluoranthene           | 206-44-0   |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Fluorene               | 86-73-7    |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Indeno(1,2,3-cd)pyrene | 193-39-5   |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Phenanthrene           | 85-01-8    |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| Pyrene                 | 129-00-0   |                     |             |             |                    |             |             |                    |             |             |                        |             |             |                                         |             |             |
| <b>Total HAP</b>       |            | <b>0.00</b>         | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>        | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>        | <b>0.00</b> | <b>0.00</b> | <b>0.02</b>            | <b>0.07</b> | <b>0.07</b> | <b>0.01</b>                             | <b>0.03</b> | <b>0.03</b> |

**POET Biorefining - Preston**  
**Preston, MN**  
**Potential HAP Emission Summary**

| HAP Name               | CAS #      | EQUI219          |             |             | FUGI 13                       |             |             | FUGI 20                      |             |             | FUGI 21                 |             |             | FUGI 12             |             |             | Ins         |
|------------------------|------------|------------------|-------------|-------------|-------------------------------|-------------|-------------|------------------------------|-------------|-------------|-------------------------|-------------|-------------|---------------------|-------------|-------------|-------------|
|                        |            | Make-Up Air Unit |             |             | Tank Farm Equipment Fugitives |             |             | Fermenter and Beerwell Leaks |             |             | Brewery Waste Receiving |             |             | Wet Cake Production |             |             | Ins         |
|                        |            | lb/hr            | Unc tpy     | Lim tpy     | lb/hr                         | Unc tpy     | Lim tpy     | lb/hr                        | Unc tpy     | Lim tpy     | lb/hr                   | Unc tpy     | Lim tpy     | lb/hr               | Unc tpy     | Lim tpy     | lb/hr       |
| Acetaldehyde           | 75-07-0    | -                | -           | -           | 5.81E-08                      | 4.11E-03    | 5.09E-04    | 1.52E-02                     | 8.63E-02    | 6.66E-02    | 1.37E-02                | 8.90E-03    | 8.90E-03    | 4.80E-03            | 2.10E-02    | 2.10E-02    | 3.97E-04    |
| Acrolein               | 107-02-8   | -                | -           | -           | 4.08E-09                      | 2.89E-04    | 3.57E-05    | 5.30E-03                     | 3.01E-02    | 2.32E-02    | 1.18E-04                | 7.66E-05    | 7.66E-05    | 9.60E-04            | 4.20E-03    | 4.20E-03    | -           |
| Arsenic                | 7440-38-2  | 4.83E-07         | 2.12E-06    | 2.12E-06    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Benzene                | 71-43-2    | 5.07E-06         | 2.22E-05    | 2.22E-05    | 1.56E-06                      | 1.10E-01    | 1.37E-02    | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | 0.00E+00    |
| Beryllium              | 7440-41-7  | 2.90E-08         | 1.27E-07    | 1.27E-07    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Cadmium                | 7440-43-7  | 2.66E-06         | 1.16E-05    | 1.16E-05    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Carbon Disulfide       | 75-15-0    | 0.00E+00         | 0.00E+00    | 0.00E+00    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Carbonyl Sulfide       | -          | -                | -           | -           | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Chromium               | 7440-47-3  | 3.38E-06         | 1.48E-05    | 1.48E-05    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Cobalt                 | 7440-48-4  | 2.03E-07         | 8.89E-07    | 8.89E-07    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Cumene                 | 98-82-8    | 0.00E+00         | 0.00E+00    | 0.00E+00    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Ethylbenzene           | 100-41-4   | 0.00E+00         | 0.00E+00    | 0.00E+00    | 2.90E-08                      | 2.06E-03    | 2.54E-04    | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | 0.00E+00    |
| Formaldehyde           | 50-00-0    | 1.81E-04         | 7.94E-04    | 7.94E-04    | 8.15E-09                      | 5.77E-04    | 7.14E-05    | 1.40E-04                     | 7.95E-04    | 6.14E-04    | 3.40E-04                | 2.21E-04    | 2.21E-04    | 9.60E-03            | 4.20E-02    | 4.20E-02    | 0.00E+00    |
| Hexane                 | 110-54-3   | 4.35E-03         | 1.90E-02    | 1.90E-02    | 9.40E-06                      | 6.59E-01    | 8.23E-02    | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Lead                   | NA         | 1.21E-06         | 5.29E-06    | 5.29E-06    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Manganese              | 7439-96-5  | 9.18E-07         | 4.02E-06    | 4.02E-06    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Mercury                | 7439-97-6  | 6.28E-07         | 2.75E-06    | 2.75E-06    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Methanol               | 67-56-1    | 0.00E+00         | 0.00E+00    | 0.00E+00    | 6.12E-09                      | 4.33E-04    | 5.36E-05    | 9.58E-04                     | 5.43E-03    | 4.20E-03    | 1.33E-03                | 8.62E-04    | 8.62E-04    | 1.92E-03            | 8.41E-03    | 8.41E-03    | -           |
| Naphthalene            | 91-20-3    | 1.47E-06         | 6.45E-06    | 6.45E-06    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | 0.00E+00    |
| Nickel                 | 7440-02-0  | 5.07E-06         | 2.22E-05    | 2.22E-05    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Propionaldehyde        | 123-38-6   | 0.00E+00         | 0.00E+00    | 0.00E+00    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Selenium               | 7782-49-2  | 6.04E-08         | 2.65E-07    | 2.65E-07    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Toluene                | 108-88-3   | 8.21E-06         | 3.60E-05    | 3.60E-05    | 3.03E-07                      | 2.13E-02    | 2.66E-03    | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | 0.00E+00    |
| Xylenes                | 1330-20-7  | 0.00E+00         | 0.00E+00    | 0.00E+00    | 8.71E-08                      | 6.17E-03    | 7.63E-04    | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | 0.00E+00    |
| 1,1,1 Trichloroethane  | 71-55-6    | 0.00E+00         | 0.00E+00    | 0.00E+00    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | 0.00E+00    |
| 2-Methylnaphthalene    | 91-57-6    | 5.80E-08         | 2.54E-07    | 2.54E-07    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| 3-Methylchloranthrene  | 56-49-5    | 4.35E-09         | 1.90E-08    | 1.90E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| 7,12-Dimethylbenz(a)an | NA         | 3.87E-09         | 1.69E-08    | 1.69E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Acenaphthene           | 83-32-9    | 4.35E-09         | 1.90E-08    | 1.90E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Acenaphthylene         | 203-96-8   | 4.35E-09         | 1.90E-08    | 1.90E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Anthracene             | 120-12-7   | 5.80E-09         | 2.54E-08    | 2.54E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Benz(a)anthracene      | 56-55-3    | 4.35E-09         | 1.90E-08    | 1.90E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Benzo(a)pyrene         | 50-32-8    | 2.90E-09         | 1.27E-08    | 1.27E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Benzo(b)fluoranthene   | 205-99-2   | 4.35E-09         | 1.90E-08    | 1.90E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Benzo(g,h,i)perylene   | 191-24-2   | 2.90E-09         | 1.27E-08    | 1.27E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Benzo(k)fluoranthene   | 207-08-9   | 4.35E-09         | 1.90E-08    | 1.90E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Chrysene               | 218-01-9   | 4.35E-09         | 1.90E-08    | 1.90E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Dibenzo(a,h)anthracene | 53-70-3    | 2.90E-09         | 1.27E-08    | 1.27E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Dichlorobenzene        | 25321-22-6 | 2.90E-06         | 1.27E-05    | 1.27E-05    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Fluoranthene           | 206-44-0   | 7.25E-09         | 3.17E-08    | 3.17E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Fluorene               | 86-73-7    | 6.76E-09         | 2.96E-08    | 2.96E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Indeno(1,2,3-cd)pyrene | 193-39-5   | 4.35E-09         | 1.90E-08    | 1.90E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Phenanthrene           | 85-01-8    | 4.11E-08         | 1.80E-07    | 1.80E-07    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| Pyrene                 | 129-00-0   | 1.21E-08         | 5.29E-08    | 5.29E-08    | -                             | -           | -           | -                            | -           | -           | -                       | -           | -           | -                   | -           | -           | -           |
| <b>Total HAP</b>       |            | <b>0.00</b>      | <b>0.02</b> | <b>0.02</b> | <b>0.00</b>                   | <b>0.80</b> | <b>0.10</b> | <b>0.02</b>                  | <b>0.12</b> | <b>0.09</b> | <b>0.02</b>             | <b>0.01</b> | <b>0.01</b> | <b>0.02</b>         | <b>0.08</b> | <b>0.08</b> | <b>0.00</b> |

**POET Biorefining - Preston**  
**Preston, MN**  
**Potential HAP Emission Summary**

| HAP Name               | CAS #      | Significant Activities |             | Total       |               |              |
|------------------------|------------|------------------------|-------------|-------------|---------------|--------------|
|                        |            | Significant Activities |             | HAP         |               |              |
|                        |            | Unc tpy                | Lim tpy     | lb/hr       | Unc tpy       | Lim tpy      |
| Acetaldehyde           | 75-07-0    | 1.74E-03               | 1.74E-03    | 2.34        | 98.08         | 5.944        |
| Acrolein               | 107-02-8   | -                      | -           | 0.75        | 15.94         | 1.503        |
| Arsenic                | 7440-38-2  | -                      | -           | 0.00        | 0.00          | 0.000        |
| Benzene                | 71-43-2    | 5.27E-07               | 5.27E-07    | 0.20        | 9.79          | 0.159        |
| Beryllium              | 7440-41-7  | -                      | -           | 0.00        | 0.00          | 0.000        |
| Cadmium                | 7440-43-7  | -                      | -           | 0.00        | 0.00          | 0.001        |
| Carbon Disulfide       | 75-15-0    | -                      | -           | 0.08        | 5.07          | 0.370        |
| Carbonyl Sulfide       |            |                        |             | 0.05        | 2.84          | 0.240        |
| Chromium               | 7440-47-3  | -                      | -           | 0.00        | 0.00          | 0.002        |
| Cobalt                 | 7440-48-4  | -                      | -           | 0.00        | 0.00          | 0.000        |
| Cumene                 | 98-82-8    | -                      | -           | 0.08        | 4.19          | 0.058        |
| Ethylbenzene           | 100-41-4   | 1.57E-07               | 1.57E-07    | 0.16        | 8.39          | 0.117        |
| Formaldehyde           | 50-00-0    | 1.50E-04               | 1.50E-04    | 0.75        | 53.25         | 2.930        |
| Hexane                 | 110-54-3   | -                      | -           | 0.89        | 32.19         | 1.896        |
| Lead                   | NA         | -                      | -           | 0.00        | 0.00          | 0.001        |
| Manganese              | 7439-96-5  | -                      | -           | 0.00        | 0.00          | 0.000        |
| Mercury                | 7439-97-6  | -                      | -           | 0.00        | 0.00          | 0.000        |
| Methanol               | 67-56-1    | -                      | -           | 0.91        | 20.13         | 1.880        |
| Naphthalene            | 91-20-3    | 2.78E-06               | 2.78E-06    | 0.08        | 4.20          | 0.059        |
| Nickel                 | 7440-02-0  | -                      | -           | 0.00        | 0.00          | 0.002        |
| Propionaldehyde        | 123-38-6   | -                      | -           | -           | -             | -            |
| Selenium               | 7782-49-2  | -                      | -           | 0.00        | 0.00          | 0.000        |
| Toluene                | 108-88-3   | 1.53E-05               | 1.53E-05    | 1.23        | 62.92         | 0.883        |
| Xylenes                | 1330-20-7  | 2.69E-07               | 2.69E-07    | 1.23        | 62.90         | 0.877        |
| 1,1,1 Trichloroethane  | 71-55-6    | 5.82E-07               | 5.82E-07    | -           | 0.00          | 0.000        |
| 2-Methylnaphthalene    | 91-57-6    |                        |             | 0.00        | 0.00          | 0.000        |
| 3-Methylchloranthrene  | 56-49-5    |                        |             | 0.00        | 0.00          | 0.000        |
| 7,12-Dimethylbenz(a)an | NA         |                        |             | 0.00        | 0.00          | 0.000        |
| Acenaphthene           | 83-32-9    |                        |             | 0.00        | 0.00          | 0.000        |
| Acenaphthylene         | 203-96-8   |                        |             | 0.00        | 0.00          | 0.000        |
| Anthracene             | 120-12-7   |                        |             | 0.00        | 0.00          | 0.000        |
| Benz(a)anthracene      | 56-55-3    |                        |             | 0.00        | 0.00          | 0.000        |
| Benzo(a)pyrene         | 50-32-8    |                        |             | 0.00        | 0.00          | 0.000        |
| Benzo(b)fluoranthene   | 205-99-2   |                        |             | 0.00        | 0.00          | 0.000        |
| Benzo(g,h,i)perylene   | 191-24-2   |                        |             | 0.00        | 0.00          | 0.000        |
| Benzo(k)fluoranthene   | 207-08-9   |                        |             | 0.00        | 0.00          | 0.000        |
| Chrysene               | 218-01-9   |                        |             | 0.00        | 0.00          | 0.000        |
| Dibenzo(a,h)anthracene | 53-70-3    |                        |             | 0.00        | 0.00          | 0.000        |
| Dichlorobenzene        | 25321-22-6 |                        |             | 0.00        | 0.00          | 0.001        |
| Fluoranthene           | 206-44-0   |                        |             | 0.00        | 0.00          | 0.000        |
| Fluorene               | 86-73-7    |                        |             | 0.00        | 0.00          | 0.000        |
| Indeno(1,2,3-cd)pyrene | 193-39-5   |                        |             | 0.00        | 0.00          | 0.000        |
| Phenanthrene           | 85-01-8    |                        |             | 0.00        | 0.00          | 0.000        |
| Pyrene                 | 129-00-0   |                        |             | 0.00        | 0.00          | 0.000        |
| <b>Total HAP</b>       |            | <b>0.00</b>            | <b>0.00</b> | <b>8.76</b> | <b>379.91</b> | <b>16.92</b> |

POET Biorefining - Preston  
Preston, MN  
237 51 28

| MPCA TEMPO ID # |                |                     |                                      | Capacity     |              |           |         | Control Equipment or other Descriptive Data |          |       |           |
|-----------------|----------------|---------------------|--------------------------------------|--------------|--------------|-----------|---------|---------------------------------------------|----------|-------|-----------|
| Emission Unit # | Stack Vent #   | Control Equipment # | Permit Description                   | Unrestricted | Bottlenecked | Materials | Units   | Description                                 | Capacity | Units | % Capture |
| 1               | 33             | 15                  | Grain Receiving Pit 1                | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 80%       |
| 180             | 33             | 15                  | Grain Receiving Conveyor 1           | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 181             | 33             | 15                  | Grain Receiving Conveyor 2           | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 1               | Uncaptured     | NA                  | Grain Receiving Pit 1 uncaptured     | 420          | 420          | Grain     | Ton/Hr  |                                             |          |       |           |
| 15              | 33             | 15                  | Grain Receiving Elevator 2           | 210          | 210          | Grain     | Ton/Hr  | Fabric Filter                               | 8750     | dscfm | 100%      |
| 2               | 33             | 15                  | Grain Receiving Elevator 1           | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8750     | dscfm | 100%      |
| 16              | 33             | 15                  | Bin Loading Conveyor 1               | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 182             | 33             | 15                  | Bin Loading Conveyor 2               | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 183             | 33             | 15                  | Bin Loading Conveyor 3               | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 47              | 33             | 15                  | Grain Storage Bin 1                  | 386,300      | 386,300      | Grain     | Bushels | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 48              | 33             | 15                  | Grain Storage Bin 2                  | 36,000       | 36,000       | Grain     | Bushels | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 49              | 33             | 15                  | Grain Storage Bin 3                  | 150,000      | 150,000      | Grain     | Bushels | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 50              | 33             | 15                  | Grain Storage Bin 4                  | 150,000      | 150,000      | Grain     | Bushels | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 51              | 33             | 15                  | Grain Storage Bin 5                  | 256,000      | 256,000      | Grain     | Bushels | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 52              | 33             | 15                  | Grain Bin 6 (Surge Bin)              | 10,000       | 10,000       | Grain     | Bushels | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 184             | 33             | 15                  | Bin Unloading Conveyor 1             | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 185             | 33             | 15                  | Bin Unloading Conveyor 2             | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 186             | 33             | 15                  | Bin Unloading Conveyor 3             | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 187             | 33             | 15                  | Dust Conveyor 1                      | 1            | 1            | Dust      | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 28              | 23             | 11                  | Grain Receiving Pit 2                | 560          | 560          | Grain     | Ton/Hr  | Fabric Filter                               | 12,000   | dscfm | 80%       |
| 188             | 23             | 11                  | Grain Receiving Conveyor 3           | 560          | 560          | Grain     | Ton/Hr  | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 28              | Uncaptured     | NA                  | Grain Receiving Pit 2 uncaptured     | 560          | 560          | Grain     | Ton/Hr  |                                             |          |       |           |
| 189             | 23             | 11                  | Grain Receiving Elevator 3           | 560          | 560          | Grain     | Ton/Hr  | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 32              | 23             | 11                  | Hi-Roller Bin Loading Conveyor 1     | 560          | 560          | Grain     | Ton/Hr  | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 190             | 23             | 11                  | Hi-Roller Bin Loading Conveyor 2     | 560          | 560          | Grain     | Ton/Hr  | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 29              | 23             | 11                  | Grain Storage Bin 7                  | 650,400      | 650,400      | Grain     | Bushels | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 30              | 23             | 11                  | Grain Storage Bin 8                  | 650,400      | 650,400      | Grain     | Bushels | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 31              | 23             | 11                  | Grain Storage Bin 9                  | 650,400      | 650,400      | Grain     | Bushels | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 33              | 23             | 11                  | Hi-Roller Bin Unloading Conveyor 1   | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 191             | 23             | 11                  | Hi-Roller Bin Unloading Conveyor 2   | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 3               | 33             | 15                  | Scalper                              | 420          | 420          | Grain     | Ton/Hr  | Fabric Filter                               | 8,750    | dscfm | 100%      |
| 192             | 29,30,31,12,49 | 7,8,9,10,26         | Bin Unloading Conveyor 4             | 96           | 96           | Grain     | Ton/Hr  |                                             |          |       |           |
| 232             | 29,30,31,12,49 | 7,8,9,10,26         | Bin Unloading Conveyor 4             | 120          | 120          | Grain     | Ton/Hr  |                                             |          |       |           |
| 193             | 29,30,31,12,49 | 7,8,9,10,26         | Hammermill Feed Elevator             | 120          | 120          | Grain     | Ton/Hr  |                                             |          |       |           |
| 97              | 29,30,31,12,49 | 7,8,9,10,26         | Hammermill Feed Conveyor             | 120          | 120          | Grain     | Ton/Hr  |                                             |          |       |           |
| 24              | 29             | 7                   | Hammermill 1                         | 24           | 24           | Grain     | Ton/Hr  | Fabric Filter                               | 11,993   | dscfm | 100%      |
| 25              | 30             | 8                   | Hammermill 2                         | 24           | 24           | Grain     | Ton/Hr  | Fabric Filter                               | 11,993   | dscfm | 100%      |
| 26              | 31             | 9                   | Hammermill 3                         | 24           | 24           | Grain     | Ton/Hr  | Fabric Filter                               | 11,993   | dscfm | 100%      |
| 27              | 32             | 10                  | Hammermill 4                         | 24           | 24           | Grain     | Ton/Hr  | Fabric Filter                               | 11,993   | dscfm | 100%      |
| 233             | 49             | 26                  | Hammermill 5                         | 24           | 24           | Grain     | Ton/hr  | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 220             | 29             | 7                   | Hammermill #1 Conveyor               | 24           | 24           | Grain     | Ton/Hr  | Fabric Filter                               | 11,993   | dscfm | 100%      |
| 221             | 30             | 8                   | Hammermill #2 Conveyor               | 24           | 24           | Grain     | Ton/Hr  | Fabric Filter                               | 11,993   | dscfm | 100%      |
| 222             | 31             | 9                   | Hammermill #3 Conveyor               | 24           | 24           | Grain     | Ton/Hr  | Fabric Filter                               | 11,993   | dscfm | 100%      |
| 223             | 32             | 10                  | Hammermill #4 Conveyor               | 24           | 24           | Grain     | Ton/Hr  | Fabric Filter                               | 11,993   | dscfm | 100%      |
| 234             | 49             | 26                  | Hammermill #5 Conveyor               | 24           | 24           | Grain     | Ton/Hr  | Fabric Filter                               | 12,000   | dscfm | 100%      |
| 96              | 29,30,31,12,49 | 7,8,9,10,26         | Hammermill Flour Collection Conveyor | 120          | 120          | Flour     | Ton/Hr  | Fabric Filter                               | 11,993   | dscfm | 100%      |
| 204             | 43             | NA                  | Flour Receiver                       | 120          | 120          | Flour     | Ton/Hr  |                                             | 4,100    | dscfm |           |
| 213             | 18             | NA                  | Flour Receiver                       | 96           | 96           | Flour     | Ton/Hr  |                                             | 4,100    | dscfm |           |
| 68              | 13             | 17                  | Slurry Tank                          | 7,000        | 7,000        | Mash      | gallons | Wet Scrubber                                |          |       |           |
| 69              | 13             | 17                  | Yeast Tank #1                        | 10,000       | 10,000       | Mash      | gallons | Wet Scrubber                                |          |       |           |
| 217             | 13             | 17                  | Yeast Tank #2                        | 10,000       | 10,000       | Mash      | gallons | Wet Scrubber                                |          |       |           |
| 54              | 8,22,50        | 19,25,14,27         | Fermenter #1                         | 270,000      | 270,000      | Beer      | gallons | Wet Scrubber, RTO                           |          |       |           |
| 55              | 8,22,50        | 19,25,14,27         | Fermenter #2                         | 270,000      | 270,000      | Beer      | gallons | Wet Scrubber, RTO                           |          |       |           |
| 58              | 8,22,50        | 19,25,14,27         | Fermenter #3                         | 270,000      | 270,000      | Beer      | gallons | Wet Scrubber, RTO                           |          |       |           |
| 59              | 8,22,50        | 19,25,14,27         | Fermenter #4                         | 270,000      | 270,000      | Beer      | gallons | Wet Scrubber, RTO                           |          |       |           |
| 60              | 8,22,50        | 19,25,14,27         | Fermenter #5                         | 270,000      | 270,000      | Beer      | gallons | Wet Scrubber, RTO                           |          |       |           |
| 12              | 8,22,50        | 19,25,14,27         | Fermenter #6                         | 270,000      | 270,000      | Beer      | gallons | Wet Scrubber, RTO                           |          |       |           |
| 56              | 8,22,50        | 19,25,14,27         | Fermenter #7                         | 270,000      | 270,000      | Beer      | gallons | Wet Scrubber, RTO                           |          |       |           |
| 63              | 8,22,50        | 19,25,14,27         | Fermenter #8                         | 270,000      | 270,000      | Beer      | gallons | Wet Scrubber, RTO                           |          |       |           |

| Emission    | Stack      | Control     | Permit Description                      | Unrestricted | Bottlenecked | Materials      | Units      | Description       | Capacity | Units | % Capture |
|-------------|------------|-------------|-----------------------------------------|--------------|--------------|----------------|------------|-------------------|----------|-------|-----------|
| 64          | 8,22,50    | 19,25,14,27 | Fermenter #9                            | 270,000      | 270,000      | Beer           | gallons    | Wet Scrubber, RTO |          |       |           |
| 65          | 8,22,50    | 19,25,14,27 | Fermenter #10                           | 270,000      | 270,000      | Beer           | gallons    | Wet Scrubber, RTO |          |       |           |
| 66          | 8,22,50    | 19,25,14,27 | Fermenter #11                           | 270,000      | 270,000      | Beer           | gallons    | Wet Scrubber, RTO |          |       |           |
| 205         | 8,22,50    | 19,25,14,27 | Fermenter #12                           | 270,000      | 270,000      | Beer           | gallons    | Wet Scrubber, RTO |          |       |           |
| 206         | 8,22,50    | 19,25,14,27 | Fermenter #13                           | 270,000      | 270,000      | Beer           | gallons    | Wet Scrubber, RTO |          |       |           |
| 235         | 8,22,50    | 19,25,14,27 | Fermenter #14                           | 270,000      | 270,000      | Beer           | gallons    | Wet Scrubber, RTO |          |       |           |
| 236         | 8,22,50    | 19,25,14,27 | Fermenter #15                           | 270,000      | 270,000      | Beer           | gallons    | Wet Scrubber, RTO |          |       |           |
| 57          | 8,22,50    | 19,25,14,27 | Beer Well                               | 270,000      | 270,000      | Beer           | gallons    | Wet Scrubber, RTO |          |       |           |
| 53          | 13         | 17          | Beer Stripper #1                        | 19,020       | 19,020       | Beer           | gal/hr     | Wet Scrubber      |          |       |           |
| 17          | 13         | 17          | Beer Stripper #2                        | 23,040       | 23,040       | Beer           | gal/hr     | Wet Scrubber      |          |       |           |
| 207         | 13         | 17          | Beer Stripper #3                        | 24,000       | 24,000       | Beer           | gal/hr     | Wet Scrubber      |          |       |           |
| 62          | 13         | 17          | Side Stripper                           | 6,420        | 6,420        | Water/Ethanol  | gal/hr     | Wet Scrubber      |          |       |           |
| 13          | 13         | 17          | Rectifier                               | 10,500       | 10,500       | Water/Ethanol  | gal/hr     | Wet Scrubber      |          |       |           |
| 70          | 13         | 17          | 190 Production Rndown Tank              | 1,400        | 1,400        | Ethanol        | gallons    | Wet Scrubber      |          |       |           |
| 36          | NA         | NA          | 190 Proof Ethanol Storage Tank          | 70,000       | 70,000       | Water/Ethanol  | gallons    |                   |          |       |           |
| 4           | 13         | 17          | Molecular Sieves #1                     | 50           | 50           | Ethanol        | gpm        | Wet Scrubber      |          |       |           |
| 194         | 13         | 17          | Molecular Sieves #2                     | 175          | 175          | Ethanol        | gpm        | Wet Scrubber      |          |       |           |
| 226         | 13         | 17          | Distillation Unit #1                    | 317          | 317          | Beer           | gpm        | Wet Scrubber      |          |       |           |
| 227         | 13         | 17          | Distillation Unit #2                    | 384          | 384          | Beer           | gpm        | Wet Scrubber      |          |       |           |
| 228         | 13         | 17          | Distillation Unit #3                    | 175          | 175          | Ethanol        | gpm        | Wet Scrubber      |          |       |           |
| 229         | 13         | 17          | Distillation Unit #4                    | 175          | 175          | Ethanol        | gpm        | Wet Scrubber      |          |       |           |
| 230         | 13         | 17          | Distillation Unit #5                    | 400          | 400          | Beer           | gpm        | Wet Scrubber      |          |       |           |
| 231         | 13         | 17          | Distillation Unit #6                    | 400          | 400          | Beer           | gpm        | Wet Scrubber      |          |       |           |
| 34          | NA         | NA          | 200 Proof Ethanol Storage Tank (T804)   | 186,000      | 186,000      | Ethanol        | gallons    |                   |          |       |           |
| 35          | NA         | NA          | 200 Proof Ethanol Storage Tank (T806)   | 1,000,000    | 1,000,000    | Ethanol        | gallons    |                   |          |       |           |
| 37          | NA         | NA          | 200 Proof Ethanol Storage Tank (T803)   | 186,000      | 186,000      | Ethanol        | gallons    |                   |          |       |           |
| 38          | NA         | NA          | Denaturant Tank (T802)                  | 47,000       | 47,000       | Denaturant     | gallons    |                   |          |       |           |
| 212         | NA         | NA          | Corrosion Inhibitor Storage Tank (T852) | 1,000        | 1,000        | Cor Inhibitor  | gallons    |                   |          |       |           |
| 67          | 16         | 6           | Ethanol Loading Rack #1                 | 650          | 650          | Ethanol        | gpm        | Flare             |          |       |           |
| 71          | 16         | 6           | Ethanol Loading Rack #2                 | 650          | 650          | Ethanol        | gpm        | Flare             |          |       |           |
| 72          | 16         | 6           | Ethanol Loading Rack Flare              | 0.055        | 0.055        | Ethanol        | MMBtu/hr   |                   |          |       |           |
| 224         | Uncaptured | NA          | Ethanol Loading Rack Uncaptured         | 650          | 650          | Ethanol        | gpm        |                   |          |       |           |
| 214,215,216 | 22,41,50   | 14,27       | Centrifuges (3)                         | 950          | 900          | Whole Stillage | gpm        | RTO               |          |       |           |
| 6           | 13         | 17          | Evaporator                              | 300          | 300          | Thin Stillage  | gpm        | Wet Scrubber      |          |       |           |
| 195         | 45         | NA          | Whole Stillage Tank                     | 9,000        | 9,000        | Whole Stillage | gallons    |                   |          |       |           |
| 196         | 46         | NA          | Thin Stillage Tank                      | 200,000      | 200,000      | Thin Stillage  | gallons    |                   |          |       |           |
| 197         | 47         | NA          | Syrup Tank #1                           | 50,000       | 50,000       | Syrup          | gallons    |                   |          |       |           |
| 211         | 48         | NA          | Syrup Tank #2                           | 20,000       | 20,000       | Syrup          | gallons    |                   |          |       |           |
| 20          | 22,50      | 14,27       | DDGS Dryer #1 with Multicyclone         | 60           | 60           | Natural Gas    | MMBtu/hr   | RTO               |          |       |           |
|             |            |             |                                         | 15           | 15           | DDGS           | ton/hr     |                   |          |       |           |
| 61          | 22,50      | 14,27       | DDGS Dryer #2 with Multicyclone         | 46           | 46           | Natural Gas    | MMBtu/hr   | RTO               |          |       |           |
|             |            |             |                                         | 20           | 20           | DDGS           | ton/hr     |                   |          |       |           |
|             | 22         | 14          | RTO                                     | 18           | 18           | Natural Gas    | MMBtu/hr   |                   |          |       |           |
|             | 50         | 27          | RTO (new)                               | 30           | 30           | Natural Gas    | MMBtu/hr   |                   |          |       |           |
| 23          | 20,50      | 22,27       | Fluid Bed Cooler                        | 32           | 32           | DDGS           | Ton/Hr     | Fabric Filter     | 40,000   | dscfm | 100%      |
| 83          | 17         | 20          | DDG Separating Cyclone                  | 32           | 32           | DDGS           | Ton/Hr     | Fabric Filter     | 2,000    | dscfm | 100%      |
| 11          | 17         | 20          | DDGS Silo                               | 3,000        | 3,000        | DDGS           | Tons       | Fabric Filter     | 2000     | dscfm | 100%      |
| 198         | 17         | 20          | DDGS Silo Unloading Conveyor            | 184          | 184          | DDGS           | Ton/Hr     | Fabric Filter     | 2,000    | dscfm | 100%      |
| 199         | Uncaptured | NA          | DDGS Flat Storage Conveyor              | 50           | 50           | DDGS           | Ton/Hr     |                   |          |       |           |
| 5           | Uncaptured | NA          | DDGS Storage Building                   | 495,000      | 495,000      | DDGS           | cubic feet |                   |          |       |           |
| 225         | Uncaptured |             | DDGS Storage Building Handling          | 48           | 48           | DDGS           | Ton/Hr     |                   |          |       |           |
| 177         | Uncaptured | NA          | DDGS Reclaim Pit                        | 47.5         | 47.5         | DDGS           | Ton/Hr     |                   |          |       |           |
| 200         | Uncaptured | NA          | DDGS Reclaim Pit Conveyor               | 47.5         | 47.5         | DDGS           | Ton/Hr     |                   |          |       |           |
| 8           | Uncaptured | NA          | DDGS Loadout Elevator                   | 184          | 184          | DDGS           | Ton/Hr     |                   |          |       |           |
| 179         | Uncaptured | NA          | DDGS Truck Loadout Spout                | 184          | 184          | DDGS           | Ton/Hr     |                   |          |       |           |
| 201         | Uncaptured | NA          | DDGS Truck Loadout Pit Conveyor         | 50           | 50           | DDGS           | Ton/Hr     |                   |          |       |           |
| 202         | Uncaptured |             | DDGS Portable Container Loadout         | 184          | 184          | DDGS           | Ton/hr     |                   |          |       |           |
| 208         | 44         | 24          | DDGS Container Loadout Conveyor 1       | 200          | 200          | DDGS           | Ton/hr     | Fabric Filter     | 3,500    | dscfm | 100%      |
| 209         | 44         | 24          | DDGS Container Loadout Spout            | 200          | 200          | DDGS           | Ton/hr     | Fabric Filter     | 3,500    | dscfm | 100%      |
| 210         | Uncaptured | NA          | DDGS Container Loadout Spout Uncaptured | 200          | 200          | DDGS           | Ton/hr     |                   |          |       |           |
| 9           | 34         | N/A         | Boiler #1                               | 63           | 63           | Natural Gas    | MMBtu/hr   |                   |          |       |           |
| 14          | 1          | N/A         | Boiler #2                               | 73           | 73           | Natural Gas    | MMBtu/hr   |                   |          |       |           |
| 218         | 42         | N/A         | Emergency Diesel Generator              | 2250         | 2250         | Diesel         | kW         |                   |          |       |           |
| 203         | 22         | 14          | Corn Oil System                         |              |              |                |            | Wet Scrubber      |          |       |           |
| 219         | NA         | NA          | Make-Up Air Unit                        | 2,464        | 2,464        | Natural Gas    | MMBtu/hr   |                   |          |       |           |
| FUGI1       |            |             | Paved Roads                             |              |              |                |            |                   |          |       |           |
| FUGI7       |            |             | Tank Valves, Flanges, and Seals         |              |              |                |            |                   |          |       |           |
| FUGI15      |            |             | Cooling Tower 1                         |              | 24,000       | Water          | GPM        |                   |          |       |           |

| Emission | Stack | Control | Permit Description           | Unrestricted | Bottlenecked | Materials | Units  | Description | Capacity | Units | % Capture |
|----------|-------|---------|------------------------------|--------------|--------------|-----------|--------|-------------|----------|-------|-----------|
| FUGI16   |       |         | Cooling Tower 2              |              |              |           |        |             |          |       |           |
| FUGI12   |       |         | Wet Cake Production          | 48           | 48           | Wetcake   | ton/hr |             |          |       |           |
| FUGI13   |       |         | Tank Farm Fugitives          |              |              |           |        |             |          |       |           |
| FUGI17   |       |         | Fermenter and Beerwell Leaks |              |              |           |        |             |          |       |           |
| FUGI18   |       |         | Brewery Waste Receiving      |              |              |           |        |             |          |       |           |

Approved Units not yet constructed  
New Units Proposed in this application  
Proposed Modification to Existing Unit  
Changes to Existing Information

#### Eliminated Emission Units

|       |            |    |                                         |  |                                                                                                  |  |  |  |  |  |  |
|-------|------------|----|-----------------------------------------|--|--------------------------------------------------------------------------------------------------|--|--|--|--|--|--|
| 8     | 2          |    | Hammermill/Belt Scale                   |  | Removed                                                                                          |  |  |  |  |  |  |
| 10    | 10         |    | Rectifier                               |  | Removed                                                                                          |  |  |  |  |  |  |
| 11    | 10         |    | Side Stripper                           |  | Removed                                                                                          |  |  |  |  |  |  |
| 19    |            |    |                                         |  | Renumbered FS005                                                                                 |  |  |  |  |  |  |
| 20    | 1          | 1  | Rail Load Spout                         |  | Never Installed                                                                                  |  |  |  |  |  |  |
| 21    | 1          | 1  | Screw Conveyor                          |  | Never Installed                                                                                  |  |  |  |  |  |  |
| 24    | 14         |    | Cooling Cyclone                         |  | Never Installed                                                                                  |  |  |  |  |  |  |
| 29    | 15         |    | Bio-digester                            |  | Removed                                                                                          |  |  |  |  |  |  |
| 41    | 24         | 14 | Hammermill #1                           |  | Replaced                                                                                         |  |  |  |  |  |  |
| 41    | 20         | NA | Flour Receiver (F-103)                  |  | Replaced - RINs                                                                                  |  |  |  |  |  |  |
| 43    | 19         |    | DDGS Cooler                             |  | Replaced                                                                                         |  |  |  |  |  |  |
| 45    | 21         | 12 | RTO                                     |  | Replaced                                                                                         |  |  |  |  |  |  |
|       | 10         | 5  | Liquifaction Tank #1                    |  | Removed                                                                                          |  |  |  |  |  |  |
|       | 10         | 5  | Liquifaction Tank #2                    |  | Removed                                                                                          |  |  |  |  |  |  |
| 16    | 1          | 1  | DDGS Reclaim Pit                        |  | Combined with 66 - uncaptured                                                                    |  |  |  |  |  |  |
| 22    | 1          | 1  | DDGS Truck Loadout Spout                |  | Combined with 73 - uncaptured                                                                    |  |  |  |  |  |  |
|       |            | 4  | Dryer #1 Multiclone                     |  | Multiclones function as process equipment recovering products. Considered one EU with the dryer. |  |  |  |  |  |  |
|       |            | 11 | Dryer #2 Multiclone                     |  | Multiclones function as process equipment recovering products. Considered one EU with the dryer. |  |  |  |  |  |  |
|       |            |    | DDG Finishing Dryer - SHUT DOWN         |  | FB is no longer used as a dryer.                                                                 |  |  |  |  |  |  |
| TK001 |            |    | Corn Mash (Slurry Tank)                 |  | Redesignated EU068                                                                               |  |  |  |  |  |  |
| TK002 |            |    | Corn Mash (Liquefaction Tank #1)        |  | Removed                                                                                          |  |  |  |  |  |  |
| TK003 |            |    | Corn Mash (Liquefaction Tank #1)        |  | Removed                                                                                          |  |  |  |  |  |  |
| TK004 |            |    | Corn Mash (Yeast Tank)                  |  | Redesignated EU069                                                                               |  |  |  |  |  |  |
| TK005 |            |    | Ethanol (Production Rundown Tank)       |  | Redesignated EU070                                                                               |  |  |  |  |  |  |
| TK007 |            |    | Ethanol 100%                            |  | Removed                                                                                          |  |  |  |  |  |  |
| TK008 |            |    | Denaturant Tank (T805)                  |  | Retired                                                                                          |  |  |  |  |  |  |
| TK009 |            |    | Denatured Ethanol Tank                  |  | Retired                                                                                          |  |  |  |  |  |  |
| FS002 |            |    | Grain Receiving 1                       |  | Redesignated EU065                                                                               |  |  |  |  |  |  |
| FS007 |            |    | Grain Receiving 2                       |  | Redesignated EU067                                                                               |  |  |  |  |  |  |
| FS003 |            |    | Ethanol Loadout #1                      |  | Redesignated EU023                                                                               |  |  |  |  |  |  |
| FS004 |            |    | DDGS Handling                           |  | Redesignated EU066                                                                               |  |  |  |  |  |  |
| FS006 |            |    | Ethanol Loadout #2                      |  | Redesignated EU073                                                                               |  |  |  |  |  |  |
| 208   | 44         | 24 | DDGS Container Loadout Conveyor 1       |  | Not constructed                                                                                  |  |  |  |  |  |  |
| 209   | 44         | 24 | DDGS Container Loadout Spout            |  | Not constructed                                                                                  |  |  |  |  |  |  |
| 210   | Uncaptured | NA | DDGS Container Loadout Spout Uncaptured |  | Not constructed                                                                                  |  |  |  |  |  |  |



**POET Biorefining - Preston**  
**Preston, MN**  
Facility Parameters

| Receiving                                                                  | Current    | Proposed   | Difference |              |
|----------------------------------------------------------------------------|------------|------------|------------|--------------|
| Annual Grain Receiving                                                     | 22,471,910 | 29,092,857 | 6,620,947  | bu/yr        |
| Annual Grain Receiving                                                     | 629,213    | 814,600    | 185,387    | ton/yr       |
| Grain Density:                                                             | 56         | 56         |            | lb/bushel    |
| Gallons Ethanol Produced per Bushel of Grain:                              | 2.67       | 2.75       |            | gal/bu       |
| Permit Limit                                                               |            |            |            |              |
| Production                                                                 | Current    | Proposed   | Difference |              |
| Gallons Anhydrous Ethanol Produced per Year:                               | 60,000,000 | 80,000,000 | 20,000,000 | gallons/yr   |
| Denaturant Delivery w/ loadout of all denatured ethanol at 5% <sup>1</sup> | 3,000,000  | 4,000,000  | 1,000,000  | gal/yr       |
| Permit Limit                                                               |            |            |            |              |
| <i>Normal Denatured Ethanol Operation:</i>                                 |            |            |            |              |
| Gallons Denatured Ethanol Produced:                                        | 63,000,000 | 84,000,000 | 21,000,000 | gallons/year |

| DDGS Production             | Current | Proposed | Difference |          |
|-----------------------------|---------|----------|------------|----------|
| Hourly DDGS Production:     | 32.00   | 32       | -          | ton/hour |
| Daily DDGS Loadout to Truck | 1,000   | 1000     | -          | ton/day  |
| Annual DDGS Produced:       | 166,440 | 221,920  | 55,480     | ton/year |

| Other Production Data                            | Current | Proposed | Difference |            |
|--------------------------------------------------|---------|----------|------------|------------|
| Pounds of Grain Oil Produced per Bushel of Grain | 1.0     | 1.0      | -          | lb/bushel  |
| Annual Corn Oil Production                       | 11,236  | 14,546   | 3,310      | tons/year  |
| Wet cake / Modified wet cake production          | 500     | 8,760    | 8,260      | hours/year |
| Maximum Plant Beerfeed                           | 650     | 1,000    | 350        | GPM        |

|                             |         |          |            |          |                                      |                                          | Maximum<br>Daily<br>Number of<br>Trucks<br>Daily | Paved<br>miles<br>traveled per<br>truck |
|-----------------------------|---------|----------|------------|----------|--------------------------------------|------------------------------------------|--------------------------------------------------|-----------------------------------------|
| Truck Data                  | Current | Proposed | Difference |          | Quantity<br>Transported per<br>Truck | Maximum<br>Number of<br>Trucks<br>Hourly |                                                  |                                         |
| DDGS Haul Out               | 6,658   | 8,877    | 2,219      | truck/yr | 25 tons                              | 3                                        | 42                                               | 0.5                                     |
| Ethanol Haul Out            | 7,875   | 10,707   | 2,832      | truck/yr | 8,000 gallons                        | 5                                        | 120                                              | 0.5                                     |
| Denaturant Delivery         | 375     | 500      | 125        | truck/yr | 8,000 gallons                        | 1                                        | 3                                                | 0.5                                     |
| Grain Delivery              | 25,169  | 32,584   | 7,415      | truck/yr | 25 tons                              | 41                                       | 375                                              | 0.5                                     |
| Liquid CO2 Haul Out         | 5200    | 5200     | -          | truck/yr | 20.5 tons                            | 4                                        | 96                                               | 0.5                                     |
| Corn Oil Haul Out           | 310     | 310      | -          | truck/yr | 8,000 gallons                        | 2                                        | 5                                                | 0.5                                     |
| Wet cake Haul Out           | 1460    | 1460     | -          | truck/yr | 25 tons                              | 3                                        | 20                                               | 0.5                                     |
| Syrup Haul Out <sup>2</sup> | 240     | 240      | -          | truck/yr | 8,000 gallons                        | 2                                        | 5                                                | 0.5                                     |

**Notes:**

- 1 Assume denaturant is 5% of denatured alcohol product. Denaturant is typically between 1.8 and 2.2%. Does not include loadout of storage capacity
- 2 Syrup loadout is not included in calculations, as the tonnage of DDGS produced assumes the syrup weight is included in the DDGS.

**POET Biorefining - Preston****Preston, MN****STRU33, TREA15****Grain Receiving and Handling #1 - Captured Emissions**[List of Sources](#)[POET PTE Summary](#)

One building (Grains & DDGS Building #1) is used for grains receiving, DDGS storage and DDGS loadout. Grain is delivered by trucks and dumped into a receiving pit. The Grains & DDGS Building #1 also stores DDGS on the floor (flat storage), when the DDGS is unable to be stored in the DDGS silo. The DDGS on the flat storage are pushed into a grated conveyor and a handling system moves the DDGS to the truck loadout system. The truck loadout spout is located in the Grains & DDGS Building #1 where DDGS are loaded into over-the road trailers. All these activities occur within one building.

Emissions from the grain receiving pit, the grain handling system between the pits and the bins, and between the bins and the scalper and surge bin are aspirated to a fabric filter (TREA15) and exhausted to atmosphere through SV001. Uncontrolled emissions from these sources and captured emissions from these sources are determined below. Uncaptured emissions (EQUI176) from the grain receiving operation is calculated on another page.

A minimum of 70% of the trucks delivering grain are hopper bottom trucks. Uncontrolled emissions account for variability in truck type. Grain receiving will not occur between 8 PM and 3 AM.

|                                           |                     |                             |
|-------------------------------------------|---------------------|-----------------------------|
| Max Grain Receiving                       | 420 Ton/Hr          | short-term throughput limit |
|                                           | 814,600 ton/yr      | total facility annual limit |
| Grain Conveying Rate to Bins              | 420 ton/hr per line |                             |
| Grain Handling rate, from bins to process | 420 ton/hr          |                             |
| Number of Grain Bins                      | 5                   |                             |
| Capture Efficiency at Receiving Pit       | 80%                 |                             |
| Daily % Hopper Bottom Trucks              | 70%                 |                             |
| Annual % Hopper Bottom                    | 70%                 |                             |

<sup>1</sup>POET has confirmed the ratio of hopper bottom trucks and straight trucks by reviewing records of trucks as they pass over the scale.

|                                    | Emission Factors <sup>1</sup> lb/ton |        |        |
|------------------------------------|--------------------------------------|--------|--------|
|                                    | PM                                   | PM10   | PM2.5  |
| Grain Receiving (Straight Trucks)  | 0.18                                 | 0.059  | 0.01   |
| Grain Receiving (Hopper Trucks)    | 0.035                                | 0.0078 | 0.0013 |
| Headhouse/Grain Handling / Scalper | 0.061                                | 0.034  | 0.0058 |
| Grain Bins                         | 0.025                                | 0.0063 | 0.0011 |

|               | Emission Factors <sup>2</sup> lb/ton |        |        |
|---------------|--------------------------------------|--------|--------|
|               | PM                                   | PM10   | PM2.5  |
| Feed Shipping | 0.0033                               | 0.0008 | 0.0008 |

<sup>1</sup> Emission factors are from AP-42 Table 9.9.1-1. PARTICULATE EMISSION FACTORS FOR GRAIN ELEVATORS, March 2003.

<sup>2</sup> Emission factors are from AP-42 Table 9.9.1-2. PARTICULATE EMISSION FACTORS FOR GRAIN PROCESSING FACILITIES, March 2003.

|                       |             |
|-----------------------|-------------|
| Conversion - 1 year = | 8760 hours  |
| Conversion - 1 ton =  | 2000 lbs    |
| Conversion - 1 hr =   | 60 minutes  |
| Conversion - 1 lb =   | 7000 grains |

| Description                                                  | Emission Unit ID | Capacity |          |
|--------------------------------------------------------------|------------------|----------|----------|
|                                                              |                  | ton/hr   | ton/year |
| Grain Receiving Pit 1 <sup>2</sup>                           | EQUI1            | 420      | 814,600  |
| Grain Handling; Grain Receiving to Storage Bins <sup>3</sup> |                  | 420      | 814,600  |
| Grain Receiving Conveyor 1                                   | EQUI180          | 420      | 814,600  |
| Grain Receiving Conveyor 2                                   | EQUI181          | 420      | 814,600  |
| Grain Receiving Elevator 1                                   | EQUI2            | 420      | 814,600  |
| Grain Receiving Elevator 2                                   | EQUI15           | 210      | 814,600  |
| Bin Loading Conveyor 1                                       | EQUI16           | 420      | 814,600  |
| Bin Loading Conveyor 2                                       | EQUI182          | 420      | 814,600  |

|                                                      |         |     |         |
|------------------------------------------------------|---------|-----|---------|
| Bin Loading Conveyor 3                               | EQUI183 | 420 | 814,600 |
| Recovery Conveyor                                    | EQUI187 | 1   | 814,600 |
| Grain Handling; Storage Bins to Scalper <sup>4</sup> |         | 420 | 814,600 |
| Bin Unloading Conveyor 1                             | EQUI184 | 420 | 814,600 |
| Bin Unloading Conveyor 2                             | EQUI185 | 420 | 814,600 |
| Bin Unloading Conveyor 3                             | EQUI186 | 420 | 814,600 |
| Scalper                                              | EQUI3   | 420 | 814,600 |
| Surge Bin                                            | EQUI52  | 420 | 814,600 |
| Grain Bins                                           |         | 420 | 814,600 |
| Grain Bin #1                                         | EQUI47  | 84  | 814,600 |
| Grain Bin #2                                         | EQUI48  | 84  | 814,600 |
| Grain Bin #3                                         | EQUI49  | 84  | 814,600 |
| Grain Bin #4                                         | EQUI50  | 84  | 814,600 |
| Grain Bin #5                                         | EQUI51  | 84  | 814,600 |

#### Controlled Emissions

Given:

All point source emissions from these emission units will be controlled by a fabric filter.

Maximum controlled TSP/PM10/PM2.5 emission rate = 0.003 gr/dscf

Exhaust Flow Rate = 8,750 dscfm

Controlled Emissions  
 Baghouse Control Efficiency  
 Capture Efficiency  
 Total Baghouse Control Efficiency  
 Uncontrolled Emissions to Baghouse Inlet

| STRU33 Controlled Emissions |          |        |          |        |          |
|-----------------------------|----------|--------|----------|--------|----------|
| PM                          |          | PM10   |          | PM2.5  |          |
| lb/hr                       | ton/year | lb/hr  | ton/year | lb/hr  | ton/year |
| 0.23                        | 0.99     | 0.23   | 1.0      | 0.23   | 1.0      |
| 99.00%                      |          | 93.00% |          | 93.00% |          |
| 80.00%                      |          | 80.00% |          | 80.00% |          |
| 79.20%                      |          | 74.40% |          | 74.40% |          |
| 22.5                        | 98.5     | 3.2    | 14.1     | 3.2    | 14.1     |

\*Control efficiencies are based on the Control Equipment Rule.

## POET Biorefining - Preston

Preston, MN

STRU 23, TRE 11

### Grain Receiving and Handling #2 - Captured Emissions

[List of Sources](#)

[POET PTE Summary](#)

One building (Grains Building #2) is used for grains receiving. Grain is delivered by trucks and dumped into a receiving pit.

Emissions from the grain receiving pit, the grain handling system between the pits and the bins, and between the bins and the scalper and surge bin are aspirated to a fabric filter (TRE 11) and exhausted to atmosphere through STRU 23. Uncontrolled emissions from these sources and captured emissions from these sources are determined below. Uncaptured emissions (EQUI178) from the grain receiving operation is calculated on the next page.

A minimum of 70% of the trucks delivering grain are hopper bottom trucks. Uncontrolled emissions account for variability in truck type. Grain receiving will not occur between 8 PM and 3 AM.

|                                           |                     |                             |
|-------------------------------------------|---------------------|-----------------------------|
| Max Grain Receiving                       | 560 Ton/Hr          | short-term throughput limit |
|                                           | 814,600 ton/yr      | total facility annual limit |
| Grain Conveying Rate to Bins              | 560 ton/hr per line |                             |
| Grain Handling rate, from bins to process | 420 ton/hr          |                             |
| Number of Grain Bins                      | 3                   |                             |
| Capture Efficiency at Receiving Pit       | 80%                 |                             |
| Daily % Hopper Bottom Trucks              | 70%                 |                             |
| Annual % Hopper Bottom                    | 70%                 |                             |

<sup>1</sup>POET has confirmed the ratio of hopper bottom trucks and straight trucks by reviewing records of trucks as they pass over the scale.

|                                    | Emission Factors <sup>1</sup> lb/ton |        |        |
|------------------------------------|--------------------------------------|--------|--------|
|                                    | PM                                   | PM10   | PM2.5  |
| Grain Receiving (Straight Trucks)  | 0.18                                 | 0.059  | 0.01   |
| Grain Receiving (Hopper Trucks)    | 0.035                                | 0.0078 | 0.0013 |
| Headhouse/Grain Handling / Scalper | 0.061                                | 0.034  | 0.0058 |
| Grain Bins                         | 0.025                                | 0.0063 | 0.0011 |

|               | Emission Factors <sup>2</sup> lb/ton |        |        |
|---------------|--------------------------------------|--------|--------|
|               | PM                                   | PM10   | PM2.5  |
| Feed Shipping | 0.0033                               | 0.0008 | 0.0008 |

<sup>1</sup> Emission factors are from AP-42 Table 9.9.1-1. PARTICULATE EMISSION FACTORS FOR GRAIN ELEVATORS, March 2003.

<sup>2</sup> Emission factors are from AP-42 Table 9.9.1-2. PARTICULATE EMISSION FACTORS FOR GRAIN PROCESSING FACILITIES, March 2003.

|                       |             |
|-----------------------|-------------|
| Conversion - 1 year = | 8760 hours  |
| Conversion - 1 ton =  | 2000 lbs    |
| Conversion - 1 hr =   | 60 minutes  |
| Conversion - 1 lb =   | 7000 grains |

| Description                                                  | Emission Unit ID | Capacity |          |
|--------------------------------------------------------------|------------------|----------|----------|
|                                                              |                  | ton/hr   | ton/year |
| Grain Receiving Pit 2 <sup>2</sup>                           | EQUI28           | 560      | 814,600  |
| Grain Handling: Grain Receiving to Storage Bins <sup>3</sup> |                  | 560      | 814,600  |
| Grain Receiving Conveyor 3                                   | EQUI188          | 560      | 814,600  |
| Grain Receiving Elevator 3                                   | EQUI189          | 560      | 814,600  |
| Hi-Roller Bin Loading Conveyor 1                             | EQUI32           | 560      | 814,600  |
| Hi-Roller Bin Loading Conveyor 2                             | EQUI190          | 560      | 814,600  |
| Grain Handling: Storage Bins to Scalper <sup>4</sup>         |                  | 560      | 814,600  |
| Hi-Roller Bin Unloading Conveyor 1                           | EQUI33           |          | 814,600  |
| Hi-Roller Bin Unloading Conveyor 2                           | EQUI191          |          | 814,600  |
| Grain Bins                                                   |                  | 560      | 814,600  |
| Grain Storage Bin 7                                          | EQUI29           | 187      | 814,600  |
| Grain Storage Bin 8                                          | EQUI30           | 187      | 814,600  |

|                     |        |     |         |
|---------------------|--------|-----|---------|
| Grain Storage Bin 9 | EQUI31 | 187 | 814,600 |
|---------------------|--------|-----|---------|

**Controlled Emissions**

Given:

All point source emissions from these emission units will be controlled by a fabric filter.

Maximum controlled TSP/PM10/PM2.5 emission rate = 0.003 gr/dscf

Exhaust Flow Rate = 12,000 dscfm

Grain Receiving and Handling  
 Baghouse Control Efficiency  
 Capture Efficiency  
 Total Baghouse Control Efficiency  
 Uncontrolled Emissions to Baghouse Inlet

| STRU 23 Controlled Emissions |          |        |          |        |          |
|------------------------------|----------|--------|----------|--------|----------|
| PM                           |          | PM10   |          | PM2.5  |          |
| lb/hr                        | ton/year | lb/hr  | ton/year | lb/hr  | ton/year |
| 0.31                         | 1.4      | 0.31   | 1.4      | 0.31   | 1.4      |
| 99.00%                       |          | 93.00% |          | 93.00% |          |
| 80.00%                       |          | 80.00% |          | 80.00% |          |
| 79.20%                       |          | 74.40% |          | 74.40% |          |
| 30.9                         | 135.2    | 4.4    | 19.3     | 4.4    | 19.3     |

\*Control efficiencies are based on the Control Equipment Rule

**POET Biorefining - Preston**  
**Preston, MN**  
**EQUI 1, EQUI 28**  
**Grain Receiving - Uncaptured Emissions**

[List of Sources](#)  
[POET PTE Summary](#)

One building (Grains & DDGS Building #1) is used for grains receiving, DDGS storage and DDGS loadout. Grain is delivered by trucks and dumped into a receiving pit. The Grains & DDGS Building #1 also stores DDGS on the floor (flat storage), when the DDGS is unable to be stored in the DDGS silo. The DDGS on the flat storage are pushed into a grated conveyor and a handling system moves the DDGS to the truck loadout system. The truck loadout spout is located in the Grains & DDGS Building #1 where DDGS are loaded into over-the road trailers. All these activities occur within one building.

One building (Grains Building #2) is used for grains receiving. Grain is delivered by trucks and dumped into a receiving pit.

A minimum of 70% of the trucks delivering grain are hopper bottom trucks. Uncontrolled emissions account for variability in truck type. Grain receiving will not occur between 8 PM and 3 AM.

At least 80% of the PM emissions are captured from the grain receiving pits in the Grains & DDGS Building #1 and Grains Building #2. Uncontrolled and controlled emissions from these sources and captured emissions from these sources are determined on the prior pages. Uncaptured emissions (EU065 and EU067) from the two grain receiving operations are calculated below.

|                                           |               |
|-------------------------------------------|---------------|
| Capture Efficiency at Receiving Pit       | 80%           |
| Daily % Hopper Bottom Trucks <sup>1</sup> | 70%           |
| Annual % Hopper Bottom <sup>1</sup>       | 70%           |
| Maximum Grain per Day Pit 1               | 5880 tons/day |
| Maximum Grain per Day Pit 2               | 3495 tons/day |

<sup>1</sup>POET has confirmed the ratio of hopper bottom trucks and straight trucks by reviewing daily records of trucks as they pass over the scale.

|                                   | Emission Factors <sup>1</sup> lb/ton |        |        |
|-----------------------------------|--------------------------------------|--------|--------|
|                                   | PM                                   | PM10   | PM2.5  |
| Grain Receiving (Straight Trucks) | 0.18                                 | 0.059  | 0.01   |
| Grain Receiving (Hopper Trucks)   | 0.035                                | 0.0078 | 0.0013 |

<sup>1</sup> Emission factors are from AP-42 Table 9.9.1-1. PARTICULATE EMISSION FACTORS FOR GRAIN ELEVATORS, March 2003.

Conversion - 1 year = 8760 hours  
Conversion - 1 ton = 2000 lbs

|                                                                            |                  | Grain Receiving     |                               |                    |                       |                  |                    |                |                       |                  |                    |                       |                  |
|----------------------------------------------------------------------------|------------------|---------------------|-------------------------------|--------------------|-----------------------|------------------|--------------------|----------------|-----------------------|------------------|--------------------|-----------------------|------------------|
|                                                                            |                  | Capacity            |                               | PM                 |                       |                  | PM <sub>10</sub>   |                |                       |                  | PM2.5              |                       |                  |
| Description                                                                | Emission Unit ID | ton/hr <sup>1</sup> | limited ton/year <sup>2</sup> | uncontrolled lb/hr | uncontrolled ton/year | limited ton/year | uncontrolled lb/hr | limited lb/day | uncontrolled ton/year | limited ton/year | uncontrolled lb/hr | uncontrolled ton/year | limited ton/year |
| Grain Receiving Pit #1 Total Uncontrolled Potential Emissions <sup>3</sup> |                  | 420                 | 407,300                       | 32.97              | 144.41                | 15.99            | 9.73               | 136.18         | 42.61                 | 4.72             | 1.64               | 7.19                  | 0.80             |
| Captured Emissions <sup>4</sup>                                            | EQUI1            |                     |                               | 26.38              | 115.53                | see SV 001       | 7.78               | 108.94         | 34.08                 | see SV 001       | 1.31               | 5.75                  | see SV 001       |
| <b>Uncaptured Emissions<sup>5</sup></b>                                    | <b>EQUI1</b>     |                     |                               | <b>6.59</b>        | <b>28.88</b>          | <b>3.20</b>      | <b>1.95</b>        | <b>27.24</b>   | <b>8.52</b>           | <b>0.94</b>      | <b>0.33</b>        | <b>1.44</b>           | <b>0.16</b>      |
| Grain Receiving Pit #2 Total Uncontrolled Potential Emissions              |                  | 560                 | 407,300                       | 43.96              | 192.54                | 15.99            | 12.97              | 80.94          | 56.81                 | 4.72             | 2.19               | 9.59                  | 0.80             |
| Captured Emissions <sup>4</sup>                                            | EQUI28           |                     |                               | 35.17              | 154.04                | see SV 030       | 10.38              | 64.76          | 45.45                 | see SV 030       | 1.75               | 7.67                  | see SV 030       |
| <b>Uncaptured Emissions<sup>5</sup></b>                                    | <b>EQUI28</b>    |                     |                               | <b>8.79</b>        | <b>38.51</b>          | <b>3.20</b>      | <b>2.59</b>        | <b>16.19</b>   | <b>11.36</b>          | <b>0.94</b>      | <b>0.44</b>        | <b>1.92</b>           | <b>0.16</b>      |
|                                                                            |                  | <b>Totals</b>       |                               | <b>15.39</b>       | <b>67.39</b>          | <b>6.39</b>      | <b>4.54</b>        | <b>16.19</b>   | <b>19.88</b>          | <b>1.89</b>      | <b>0.77</b>        | <b>3.36</b>           | <b>0.32</b>      |

<sup>1</sup>ton/hr is based on the short-term throughput capacity of the grain dump pit.

<sup>2</sup>limited ton/year is based on a total facility limit of 629,213 ton grain/year. The limited throughput was divided evenly between each grain pit (314,607 tons grain/year).

<sup>3</sup>The total uncontrolled potential emissions for the grain receiving pit were calculated here. The grain receiving pit is controlled by a hood which gets 80% capture. These emissions are split up into two different emission units, one for captured emissions and one for uncaptured emissions.

<sup>4</sup>The captured emissions (80% of the total grain receiving pit emissions) are accounted for under EQUI 1 (STRU 33 tab) and EQUI 28 (STRU 23 tab). Captured emissions for EQUI 1 are controlled by TREA 15 and exit out of STRU 33. Captured emissions for EQUI 28 are controlled by TREA 11 and exit out of STRU 23.

<sup>5</sup>The uncaptured emissions (20% of the total grain receiving pit emissions) are accounted for under EQUI 176 and EQUI 178.

**POET Biorefining - Preston**  
**Preston, MN**  
**EQUI 1, EQUI 28**  
**Grain Receiving - Uncaptured Emissions**

[List of Sources](#)  
[POET PTE Summary](#)

One building (Grains & DDGS Building #1) is used for grains receiving, DDGS storage and DDGS loadout. Grain is delivered by trucks and dumped into a receiving pit. The Grains & DDGS Building #1 also stores DDGS on the floor (flat storage), when the DDGS is unable to be stored in the DDGS silo. The DDGS on the flat storage are pushed into a grated conveyor and a handling system moves the DDGS to the truck loadout system. The truck loadout spout is located in the Grains & DDGS Building #1 where DDGS are loaded into over-the road trailers. All these activities occur within one building.

One building (Grains Building #2) is used for grains receiving. Grain is delivered by trucks and dumped into a receiving pit.

A minimum of 70% of the trucks delivering grain are hopper bottom trucks. Uncontrolled emissions account for variability in truck type. Grain receiving will not occur between 8 PM and 3 AM.

At least 80% of the PM emissions are captured from the grain receiving pits in the Grains & DDGS Building #1 and Grains Building #2. Uncontrolled and controlled emissions from these sources and captured emissions from these sources are determined on the prior pages. Uncaptured emissions (EU065 and EU067) from the two grain receiving operations are calculated below.

|                                           |               |
|-------------------------------------------|---------------|
| Capture Efficiency at Receiving Pit       | 80%           |
| Daily % Hopper Bottom Trucks <sup>1</sup> | 70%           |
| Annual % Hopper Bottom <sup>1</sup>       | 70%           |
| Maximum Grain per Day Pit 1               | 1550 tons/day |
| Maximum Grain per Day Pit 2               | 7825 tons/day |

<sup>1</sup>POET has confirmed the ratio of hopper bottom trucks and straight trucks by reviewing daily records of trucks as they pass over the scale.

|                                   | Emission Factors <sup>1</sup> lb/ton |        |        |
|-----------------------------------|--------------------------------------|--------|--------|
|                                   | PM                                   | PM10   | PM2.5  |
| Grain Receiving (Straight Trucks) | 0.18                                 | 0.059  | 0.01   |
| Grain Receiving (Hopper Trucks)   | 0.035                                | 0.0078 | 0.0013 |

<sup>1</sup> Emission factors are from AP-42 Table 9.9.1-1. PARTICULATE EMISSION FACTORS FOR GRAIN ELEVATORS, March 2003.

Conversion - 1 year = 8760 hours  
Conversion - 1 ton = 2000 lbs

|                                                                            |                  | Grain Receiving     |                               |                    |                       |                  |                    |                |                       |                  |                    |                       |                  |
|----------------------------------------------------------------------------|------------------|---------------------|-------------------------------|--------------------|-----------------------|------------------|--------------------|----------------|-----------------------|------------------|--------------------|-----------------------|------------------|
|                                                                            |                  | Capacity            |                               | PM                 |                       |                  | PM <sub>10</sub>   |                |                       |                  | PM2.5              |                       |                  |
| Description                                                                | Emission Unit ID | ton/hr <sup>1</sup> | limited ton/year <sup>2</sup> | uncontrolled lb/hr | uncontrolled ton/year | limited ton/year | uncontrolled lb/hr | limited lb/day | uncontrolled ton/year | limited ton/year | uncontrolled lb/hr | uncontrolled ton/year | limited ton/year |
| Grain Receiving Pit #1 Total Uncontrolled Potential Emissions <sup>3</sup> |                  | 420                 | 407,300                       | 32.97              | 144.41                | 15.99            | 9.73               | 35.90          | 42.61                 | 4.72             | 1.64               | 7.19                  | 0.80             |
| Captured Emissions <sup>4</sup>                                            | EQUI1            |                     |                               | 26.38              | 115.53                | see SV 001       | 7.78               | 28.72          | 34.08                 | see SV 001       | 1.31               | 5.75                  | see SV 001       |
| <b>Uncaptured Emissions<sup>5</sup></b>                                    | <b>EQUI1</b>     |                     |                               | <b>6.59</b>        | <b>28.88</b>          | <b>3.20</b>      | <b>1.95</b>        | <b>7.18</b>    | <b>8.52</b>           | <b>0.94</b>      | <b>0.33</b>        | <b>1.44</b>           | <b>0.16</b>      |
| Grain Receiving Pit #2 Total Uncontrolled Potential Emissions              |                  | 560                 | 407,300                       | 43.96              | 192.54                | 15.99            | 12.97              | 181.23         | 56.81                 | 4.72             | 2.19               | 9.59                  | 0.80             |
| Captured Emissions <sup>4</sup>                                            | EQUI28           |                     |                               | 35.17              | 154.04                | see SV 030       | 10.38              | 144.98         | 45.45                 | see SV 030       | 1.75               | 7.67                  | see SV 030       |
| <b>Uncaptured Emissions<sup>5</sup></b>                                    | <b>EQUI28</b>    |                     |                               | <b>8.79</b>        | <b>38.51</b>          | <b>3.20</b>      | <b>2.59</b>        | <b>36.25</b>   | <b>11.36</b>          | <b>0.94</b>      | <b>0.44</b>        | <b>1.92</b>           | <b>0.16</b>      |
|                                                                            |                  | <b>Totals</b>       |                               | <b>15.39</b>       | <b>67.39</b>          | <b>6.39</b>      | <b>4.54</b>        | <b>36.25</b>   | <b>19.88</b>          | <b>1.89</b>      | <b>0.77</b>        | <b>3.36</b>           | <b>0.32</b>      |

<sup>1</sup>ton/hr is based on the short-term throughput capacity of the grain dump pit.

<sup>2</sup>limited ton/year is based on a total facility limit of 629,213 ton grain/year. The limited throughput was divided evenly between each grain pit (314,607 tons grain/year).

<sup>3</sup>The total uncontrolled potential emissions for the grain receiving pit were calculated here. The grain receiving pit is controlled by a hood which gets 80% capture. These emissions are split up into two different emission units, one for captured emissions and one for uncaptured emissions.

<sup>4</sup> The captured emissions (80% of the total grain receiving pit emissions) are accounted for under EQUI 1 (STRU 33 tab) and EQUI 28 (STRU 23 tab). Captured emissions for EQUI 1 are controlled by TREA 15 and exit out of STRU 33. Captured emissions for EQUI 28 are controlled by TREA 11 and exit out of STRU 23.

<sup>5</sup>The uncaptured emissions (20% of the total grain receiving pit emissions) are accounted for under EQUI 176 and EQUI 178.

POET Biorefining - Preston  
Preston, MN  
STRU29, TREA7  
Hammermill 1

Grain comes from the surge bin and enters the hammermills. There are four hammermills currently at the facility. A

|                                         |                |                                |
|-----------------------------------------|----------------|--------------------------------|
| Max Grain Handling to process           | 120 Ton/Hr     | short-term throughput capacity |
|                                         | 814,600 ton/yr | total facility annual limit    |
| Max Hammermill throughput               | 24 Ton/Hr      |                                |
| Number of Hammermills                   | 5              |                                |
| Capture Efficiency of Aspiration System | 100%           |                                |
| Conversion - 1 year =                   | 8760 hours     |                                |
| Conversion - 1 ton =                    | 2000 lbs       |                                |
| Conversion - 1 hr =                     | 60 minutes     |                                |
| Conversion - 1 lb =                     | 7000 grains    |                                |

|                                      | Emission | Capacity |          |
|--------------------------------------|----------|----------|----------|
|                                      | Unit ID  | ton/hr   | ton/year |
| Hammermill 1                         | EQUI24   | 24       | 162,920  |
| Bin Unloading Conveyor 4             | EQUI232  | 120      | 814,600  |
| Hammermill Feed Elevator             | EQUI193  | 120      | 814,600  |
| Hammermill Feed Conveyor             | EQUI97   | 120      | 814,600  |
| Hammermill #1 Conveyor               | EQUI220  | 24       | 162,920  |
| Hammermill Flour Collection Conveyor | EQUI96   | 120      | 814,600  |

Controlled Emissions

Given:

All point source emissions from these emission units will be controlled by a fabric filter.

Maximum controlled TSP/PM10 emission rate = 0.003 gr/dscf

Exhaust Flow Rate = 11,993 dscfm

| STRU29 Emissions            |           |         |          |         |          |  |
|-----------------------------|-----------|---------|----------|---------|----------|--|
| PM                          |           | PM10    |          | PM2.5   |          |  |
| lb/hr                       | ton/year  | lb/hr   | ton/year | lb/hr   | ton/year |  |
| Controlled Emissions        | 0.311.4   | 0.311.4 |          | 0.311.4 |          |  |
| Baghouse Control Efficiency | 99.00%    | 93.00%  |          | 93.00%  |          |  |
| Uncontrolled Emissions      | 30.8135.1 | 4.419.3 |          | 4.419.3 |          |  |

\*Control efficiencies are based on the Control Equipment Rule. The units are total enclosure.



**POET Biorefining - Preston**  
**Preston, MN**  
**STRU30, TREA8**  
**Hammermill 2**

Grain comes from the surge bin and enters the hammermills. There are four hammermills currently at the facility.

|                                         |                |                                |
|-----------------------------------------|----------------|--------------------------------|
| Max Grain Handling to process           | 120 Ton/Hr     | short-term throughput capacity |
|                                         | 814,600 ton/yr | total facility annual limit    |
| Max Hammermill throughput               | 24 Ton/Hr      |                                |
| Number of Hammermills                   | 5              |                                |
| Capture Efficiency of Aspiration System | 100%           |                                |
| Conversion - 1 year =                   | 8760 hours     |                                |
| Conversion - 1 ton =                    | 2000 lbs       |                                |
| Conversion - 1 hr =                     | 60 minutes     |                                |
| Conversion - 1 lb =                     | 7000 grains    |                                |

|                                      | Emission Unit ID | Capacity |          |
|--------------------------------------|------------------|----------|----------|
|                                      |                  | ton/hr   | ton/year |
| Hammermill 2                         | EQUI25           | 24       | 162,920  |
| Bin Unloading Conveyor 4             | EQUI232          | 120      | 814,600  |
| Hammermill Feed Elevator             | EQUI193          | 120      | 814,600  |
| Hammermill Feed Conveyor             | EQUI97           | 120      | 814,600  |
| Hammermill #2 Conveyor               | EQUI221          | 24       | 162,920  |
| Hammermill Flour Collection Conveyor | EQUI96           | 120      | 814,600  |

**Controlled Emissions**

Given:  
All point source emissions from these emission units will be controlled by a fabric filter.  
Maximum controlled TSP/PM10 emission rate = 0.003 gr/dscf  
Exhaust Flow Rate = 11,993 dscfm

|                             | STRU30 Emissions |          |        |          |        |          |
|-----------------------------|------------------|----------|--------|----------|--------|----------|
|                             | PM               |          | PM10   |          | PM2.5  |          |
|                             | lb/hr            | ton/year | lb/hr  | ton/year | lb/hr  | ton/year |
| Controlled Emissions        | 0.31             | 1.4      | 0.31   | 1.4      | 0.31   | 1.4      |
| Baghouse Control Efficiency | 99.00%           |          | 93.00% |          | 93.00% |          |
| Uncontrolled Emissions      | 30.8             | 135.1    | 4.4    | 19.3     | 4.4    | 19.3     |

\*Control efficiencies are based on the Control Equipment Rule. The units are total enclosure.

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU31, TREA9**  
**Hammermill 3**

Grain comes from the surge bin and enters the hammermills. There are four hammermills currently at the facility.

|                                         |                |                                |
|-----------------------------------------|----------------|--------------------------------|
| Max Grain Handling to process           | 120 Ton/Hr     | short-term throughput capacity |
|                                         | 814,600 ton/yr | total facility annual limit    |
| Max Hammermill throughput               | 24 Ton/Hr      |                                |
| Number of Hammermills                   | 5              |                                |
| Capture Efficiency of Aspiration System | 100%           |                                |
| Conversion - 1 year =                   | 8760 hours     |                                |
| Conversion - 1 ton =                    | 2000 lbs       |                                |
| Conversion - 1 hr =                     | 60 minutes     |                                |
| Conversion - 1 lb =                     | 7000 grains    |                                |

|                                      | Emission Unit ID | Capacity |          |
|--------------------------------------|------------------|----------|----------|
|                                      |                  | ton/hr   | ton/year |
| Hammermill 3                         | EQUI26           | 24       | 162,920  |
| Bin Unloading Conveyor 4             | EQUI232          | 120      | 814,600  |
| Hammermill Feed Elevator             | EQUI193          | 120      | 814,600  |
| Hammermill Feed Conveyor             | EQUI97           | 120      | 814,600  |
| Hammermill #3 Conveyor               | EQUI222          | 24       | 162,920  |
| Hammermill Flour Collection Conveyor | EQUI96           | 120      | 814,600  |

**Controlled Emissions**

Given:

All point source emissions from these emission units will be controlled by a fabric filter.

Maximum controlled TSP/PM10 emission rate = 0.003 gr/dscf

Exhaust Flow Rate = 11,993 dscfm

| STRU31 Emissions            |        |          |        |          |        |          |
|-----------------------------|--------|----------|--------|----------|--------|----------|
|                             | PM     |          | PM10   |          | PM2.5  |          |
|                             | lb/hr  | ton/year | lb/hr  | ton/year | lb/hr  | ton/year |
| Controlled Emissions        | 0.31   | 1.4      | 0.31   | 1.4      | 0.31   | 1.4      |
| Baghouse Control Efficiency | 99.00% |          | 93.00% |          | 93.00% |          |
| Uncontrolled Emissions      | 30.8   | 135.1    | 4.4    | 19.3     | 4.4    | 19.3     |

\*Control efficiencies are based on the Control Equipment Rule. The units are total enclosure.

POET Biorefining - Preston  
Preston, MN  
STRU32, TREA10  
Hammermill 4

Grain comes from the surge bin and enters the hammermills. There are four hammermills currently at the

|                                         |                |                                |
|-----------------------------------------|----------------|--------------------------------|
| Max Grain Handling to process           | 120 Ton/Hr     | short-term throughput capacity |
|                                         | 814,600 ton/yr | total facility annual limit    |
| Max Hammermill throughput               | 24 Ton/Hr      |                                |
| Number of Hammermills                   | 5              |                                |
| Capture Efficiency of Aspiration System | 100%           |                                |
| Conversion - 1 year =                   | 8760 hours     |                                |
| Conversion - 1 ton =                    | 2000 lbs       |                                |
| Conversion - 1 hr =                     | 60 minutes     |                                |
| Conversion - 1 lb =                     | 7000 grains    |                                |

|                                      | Emission Unit ID | Capacity |          |
|--------------------------------------|------------------|----------|----------|
|                                      |                  | ton/hr   | ton/year |
| Hammermill 4                         | EQUI27           | 24       | 162,920  |
| Bin Unloading Conveyor 4             | EQUI232          | 120      | 814,600  |
| Hammermill Feed Elevator             | EQUI193          | 120      | 814,600  |
| Hammermill Feed Conveyor             | EQUI97           | 120      | 814,600  |
| Hammermil #4 Conveyor                | EQUI223          | 24       | 162,920  |
| Hammermill Flour Collection Conveyor | EQUI96           | 120      | 814,600  |

Controlled Emissions

Given:

All point source emissions from these emission units will be controlled by a fabric filter.

Maximum controlled TSP/PM10 emission rate = 0.003 gr/dscf

Exhaust Flow Rate = 11,993 dscfm

|                             | STRU32 Emissions |          |        |          |        |          |
|-----------------------------|------------------|----------|--------|----------|--------|----------|
|                             | PM               |          | PM10   |          | PM2.5  |          |
|                             | lb/hr            | ton/year | lb/hr  | ton/year | lb/hr  | ton/year |
| Controlled Emissions        | 0.31             | 1.4      | 0.31   | 1.4      | 0.31   | 1.4      |
| Baghouse Control Efficiency | 99.00%           |          | 93.00% |          | 93.00% |          |
| Uncontrolled Emissions      | 30.8             | 135.1    | 4.4    | 19.3     | 4.4    | 19.3     |

\*Control efficiencies are based on the Control Equipment Rule. The units are total enclosure.

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU49, TRE A26**  
**Hammermill 5**

Grain comes from the surge bin and enters the hammermills. There are four hammermills currently at the facility. A 5th is being proposed in the November 2019 air permit application.

|                                         |                |                                |
|-----------------------------------------|----------------|--------------------------------|
| Max Grain Handling to process           | 120 Ton/Hr     | short-term throughput capacity |
|                                         | 814,600 ton/yr | total facility annual limit    |
| Max Hammermill throughput               | 24 Ton/Hr      |                                |
| Number of Hammermills                   | 5              |                                |
| Capture Efficiency of Aspiration System | 100%           |                                |
| Conversion - 1 year =                   | 8760 hours     |                                |
| Conversion - 1 ton =                    | 2000 lbs       |                                |
| Conversion - 1 hr =                     | 60 minutes     |                                |
| Conversion - 1 lb =                     | 7000 grains    |                                |

|                                      | Emission Unit ID | Capacity |          |
|--------------------------------------|------------------|----------|----------|
|                                      |                  | ton/hr   | ton/year |
| Hammermill 5                         | EQUI27           | 24       | 162,920  |
| Bin Unloading Conveyor 4             | EQUI192          | 120      | 814,600  |
| Hammermill Feed Elevator             | EQUI193          | 120      | 814,600  |
| Hammermill Feed Conveyor             | EQUI97           | 120      | 814,600  |
| Hammermill #5 Conveyor               | EQUI223          | 24       | 162,920  |
| Hammermill Flour Collection Conveyor | EQUI96           | 120      | 814,600  |

**Controlled Emissions**

Given:

All point source emissions from these emission units will be controlled by a fabric filter.

Maximum controlled TSP/PM10 emission rate = 0.003 gr/dscf

Exhaust Flow Rate = 11,993 dscfm

|                             | STRU49 Emissions |          |        |          |        |          |
|-----------------------------|------------------|----------|--------|----------|--------|----------|
|                             | PM               |          | PM10   |          | PM2.5  |          |
|                             | lb/hr            | ton/year | lb/hr  | ton/year | lb/hr  | ton/year |
| Controlled Emissions        | 0.31             | 1.4      | 0.31   | 1.4      | 0.31   | 1.4      |
| Baghouse Control Efficiency | 99.00%           |          | 93.00% |          | 93.00% |          |
| Uncontrolled Emissions      | 30.8             | 135.1    | 4.4    | 19.3     | 4.4    | 19.3     |

\*Control efficiencies are based on the Control Equipment Rule. The units are total enclosure.

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU8, TREA19, TREA25**  
**Fermentation and Distillation to Atmosphere**

The RTO must occasionally be temporarily shut down for unscheduled maintenance or other operational reasons. In this event, the DDGS dryers will be shut down, however, the fermentation tanks and distillation systems will continue to be operated in normal mode. This operating scenario will be limited to no more than 500 hours per calendar year. The emissions from fermentation and the beerwell normally routed to the RTO will be vented to a bypass stack (STRU8). The emissions will be controlled by the wet scrubber. The VOC and HAP emission factors from the scrubber are based on performance tests at the facility.

Scrubber Design VOC Control Efficiency = 95.00%  
 Scrubber Acetaldehyde Control Efficiency = 85.00% MPCA assumed value for ethanol plants  
 Scrubber Acrolein Control Efficiency = 32.50% MPCA assumed value for ethanol plants  
 Scrubber Methanol Control Efficiency = 95.00% MPCA assumed value for ethanol plants  
 Scrubber Formaldehyde Control Efficiency = 85.00% MPCA assumed value for ethanol plants  
 Yearly operation limit= 500 hours  
 Proposed Maximum Beerfeed = 1000

**Preston Stack Test 7/11/2019**

|                | Run 1 | Run 2  | Run 3  | Average |        | Control Efficiency |
|----------------|-------|--------|--------|---------|--------|--------------------|
|                | lb/hr | lb/hr  | lb/hr  | lb/hr   | TPY    |                    |
| VOC            | 5.34  | 5.28   | 4.50   | 5.04    | 1.26   | 99.45%             |
| Acetaldehyde   | 0.14  | 0.19   | 0.20   | 0.18    | 0.04   |                    |
| Acrolein       | 0.02  | 0.02   | 0.02   | 0.02    | 0.01   |                    |
| Methanol       | 0.02  | 0.02   | 0.02   | 0.02    | 0.01   |                    |
| Formaldehyde   | 0.01  | 0.00   | 0.00   | 0.00    | 0.00   |                    |
| Beerfeed (gpm) | 650.1 | 649.60 | 650.10 | 649.93  | 162.48 |                    |

Desired Safety Factor 1.5

|              | Controlled | Current Permit Limit | Limited Controlled |      | Uncontrolled |        |
|--------------|------------|----------------------|--------------------|------|--------------|--------|
|              | lbs/hr     | lbs/hr               | lbs/hr             | TPY  | lbs/hr       | TPY    |
| VOC          | 11.63      | 12.0                 | 12.00              | 3.00 | 2181.82      | 545.45 |
| Acetaldehyde | 0.41       |                      | 0.41               | 0.10 | 2.72         | 0.68   |
| Acrolein     | 0.05       |                      | 0.05               | 0.01 | 0.07         | 0.02   |
| Methanol     | 0.05       |                      | 0.05               | 0.01 | 0.92         | 0.23   |
| Formaldehyde | 0.01       |                      | 0.01               | 0.00 | 0.05         | 0.01   |
| Total HAP    | 0.51       |                      | 0.51               | 0.13 | 3.76         | 0.94   |

POET proposed to install a second fermentation scrubber (CE022). The scrubber will be similar to the current scrubber (CE009) and will provide equivalent or better emission controls. CE022 will be used when CE009 is not in service. The emissions from CE022 will vent to the same stack vent as the current scrubber (SV029 during normal operations and SV003 during downtime of the RTO). Potential to emit will be the same for both scrubbers.

Scrubber VOC Control Efficiency = 95.00%  
 Scrubber Acetaldehyde Control Efficiency = 85.00%  
 Scrubber Acrolein Control Efficiency = 32.50%  
 Scrubber Methanol Control Efficiency = 95.00%  
 Scrubber Formaldehyde Control Efficiency = 85.00%

|              | Controlled |      | Uncontrolled |        |
|--------------|------------|------|--------------|--------|
|              | lbs/hr     | TPY  | lbs/hr       | TPY    |
| VOC          | 12.00      | 3.00 | 2181.82      | 545.45 |
| Acetaldehyde | 0.41       | 0.10 | 2.72         | 0.68   |
| Acrolein     | 0.05       | 0.01 | 0.07         | 0.02   |
| Methanol     | 0.05       | 0.01 | 0.92         | 0.23   |
| Formaldehyde | 0.01       | 0.00 | 0.05         | 0.01   |
| Total HAP    | 0.51       | 0.13 | 3.76         | 0.94   |

Fermentation Process - Emission Factor Development - Biogenic Emissions

Given: 80,000,000 gallons of undenatured (200-proof) EtOH / year  
46.06844 [g/mol] mole wieght of EtOH  
0.789 [g/cm<sup>3</sup>] density of liquid EtOH  
44.0095 [g/mol] mole wieght of CO2

and:  
 $C_6H_{12}O_6 + \text{yeast} = 2 CH_3CH_2OH + 2 CO_2$   
sugar + yeast = ethanol + carbon dioxide

Therefore:

|                                       |                           |                          |
|---------------------------------------|---------------------------|--------------------------|
| 80,000,000 gal 200-proof EtOH         | 0.789 g EtOH              | 3,785.41 cm <sup>3</sup> |
| year                                  | 1 cm <sup>3</sup>         | 1 gal                    |
| = 2.39E+11 g EtOH                     | 1 mol EtOH                |                          |
| year                                  | 46.06844 g EtOH           |                          |
| = 5,186,524,206 mol EtOH              | 2 mol CO <sub>2</sub>     |                          |
| year                                  | 2 mol EtOH                |                          |
| = 5,186,524,206 mol CO <sub>2</sub>   | 44.0095 g CO <sub>2</sub> | 1 ton                    |
| year                                  | 1 mol CO <sub>2</sub>     | 907,184.74 g             |
| = 251,610 tons CO <sub>2</sub> / year |                           |                          |
| = 251,610 CO2e Total in tons/yr       |                           |                          |

| Uncontrolled |        | Controlled |        |
|--------------|--------|------------|--------|
| lb/hr        | ton/yr | lb/hr      | ton/yr |
| 28.72        | 251610 | 28.72      | 251610 |

Fermentation CO2

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU 13 Emission Calculations for Distillation Scrubber**

The distillation systems emit VOC during its operation. The emissions will be controlled by the wet scrubber. The VOC and HAP emission factor is based on stack testing performed on July 12 2019.

| Preston Performance Test<br>7/12/2019 |        |        |         |         |
|---------------------------------------|--------|--------|---------|---------|
|                                       | Run 1  | Run 2  | Run 3   | Avg     |
|                                       | lb/hr  | lb/hr  | lb/hr   | lb/hr   |
| VOC                                   | 0.06   | 0.05   | 0.06    | 0.057   |
| Acetaldehyde                          | 0.011  | 0.01   | 0.01    | 0.010   |
| Acrolein                              | 0.0004 | 0.0004 | 0.0004  | 0.000   |
| Methanol                              | 0.0004 | 0.0003 | 0.0003  | 0.000   |
| Formaldehyde                          | 0.0003 | 0.0002 | 0.00027 | 0.000   |
| Beerfeed(gpm)                         | 649.8  | 652.3  | 650.1   | 650.733 |

Design Scrubber VOC Control Efficiency = 95.00%  
 Scrubber Acetaldehyde Control Efficiency = 85.00%  
 Scrubber Acrolein Control Efficiency = 32.50%  
 Scrubber Methanol Control Efficiency = 95.00%  
 Scrubber Formaldehyde Control Efficiency = 85.00%  
 Safety Factor = 2.00

Current Beer Feed Rate 650 gpm  
 Proposed Beer Feed Rate 1000 gpm

| Uncontrolled           |  | lb/hr | ton/yr |
|------------------------|--|-------|--------|
| VOC                    |  | 30    | 131.4  |
| Acetaldehyde           |  | 0.2   | 0.9    |
| Acrolein               |  | 0.0   | 0.01   |
| Methanol               |  | 0.0   | 0.1    |
| Formaldehyde           |  | 0.0   | 0.02   |
| Total Uncontrolled HAP |  | 0.2   | 1.05   |

0.71%

| Controlled           |      | Current Permit Limit | Limited Controlled |        |
|----------------------|------|----------------------|--------------------|--------|
|                      |      | lb/hr                | lb/hr              | ton/yr |
| Controlled           |      |                      |                    |        |
| VOC                  |      | 0.17                 | 1.5                | 6.57   |
| Acetaldehyde         |      | 3.18E-02             | 3.18E-02           | 0.14   |
| Acrolein             |      | 1.23E-03             | 1.23E-03           | 0.01   |
| Methanol             |      | 1.02E-03             | 1.02E-03           | 0.004  |
| Formaldehyde         |      | 7.89E-04             | 7.89E-04           | 0.003  |
| Total Controlled HAP | 0.03 |                      | 0.03               | 0.15   |

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU22, TREA14, TREA19, TREA25**  
**Fermentation, Distillation, and Drying to produce DDGS**

STRU22 includes the emissions from the fermentation system, the DDGS dryers, and the centrifuges. The fermentation system and centrifuges are sources of VOC and HAPs. The dryers have natural gas fired burners and are sources of TSP, PM10, NOx, SOx, CO, VOC and HAPs. The emission units are vented to a regenerative thermal oxidizer (RTO). Fermentation emissions will vent through the fermentation scrubber for control, then the CO2 plant to recover product, and then to the RTO. The RTO will control VOC HAPs, CO, and TSP emissions.

The RTO is equipped natural gas fired burners rated at 18 MMBTU/hr and been designed to achieve a minimum of 95.0% reduction in VOC and HAP emissions. Additionally, the RTO will achieve 90% reduction in CO emissions. The RTO control efficiencies are based on and performance tests for VOC & HAPs.

Uncontrolled NOx, SOx and GHG emissions are assumed to be equal to combustion potential to emit. In addition to combustion emissions, the dryers generate PM, PM<sub>10</sub>, PM<sub>2.5</sub>, CO and VOC emissions as a result of the DDGS drying process. Uncontrolled potential to emit from drying wet cake cannot be easily calculated, so stack test data is used as potential to emit. Controlled emissions for PM, VOC, CO, and SO2 are equal to permit limits. Compliance with PM, VOC, and CO has been demonstrated through stack testing. Controlled NOx emissions are based on stack test results.

|                              |        |              |  |
|------------------------------|--------|--------------|--|
| RTO VOC Control Efficiency = | 98.00% | Design Basis |  |
| RTO HAP Control Efficiency = | 95.00% | Design Basis |  |
| RTO NOx Control Efficiency = | 0.00%  |              |  |
| RTO CO Control Efficiency =  | 90.00% | Design Basis |  |
| RTO PM Control Efficiency =  | 80.00% | Permit Limit |  |
| RTO SO2 Control Efficiency = | 0.00%  |              |  |
| Proposed beerfeed=           | 1000   | gpm          |  |
| Yearly operation limit=      | 8760   | hours        |  |
| EF safety factor =           | 1.25   |              |  |
| HAP safety Factor =          | 2      |              |  |

*Conversion:*      2000 lbs = 1 ton  
1020 MMBTU = 1 MMSCF

**Natural Gas Combustion**

| Unit   | Rated Capacity |
|--------|----------------|
| Dryers | 106 MMBTU/Hr   |
| RTO    | 18 MMBTU/Hr    |

| Pollutant | Emission Factor |                                      |
|-----------|-----------------|--------------------------------------|
|           | lb/MMBTU        | Source                               |
| SO2       | 0.0006          | AP-42 Section 1.4                    |
| CO2       | 116.89          | USEPA GHG Emission Factors, 11/19/15 |
| CH4       | 0.0022          | USEPA GHG Emission Factors, 11/19/15 |
| N2O       | 0.00022         | USEPA GHG Emission Factors, 11/19/15 |
| CO2e      | 117.0044        | USEPA GHG Emission Factors, 11/19/15 |

AP-42 emission factors from Section 1.4 were converted to lb/MMBtu assuming a heating value of 1020 Btu/ft3 for natural gas.

**PRE RTO Stack Test - 7/9/2019**

| Test Results | Run 1 | Run 2 | Run 3 | Average |
|--------------|-------|-------|-------|---------|
|              | lb/hr | lb/hr | lb/hr | lb/hr   |
| PM           | 5.24  | 8.01  | 7.7   | 6.98    |
| Nox          | 10.03 | 9.39  | 9.28  | 9.57    |
| CO           | 3     | 3.09  | 2.87  | 2.99    |
| VOC          | 3.04  | 3.9   | 3.18  | 3.37    |
| HAPs         | 0.22  | 0.21  | 0.23  | 0.22    |
| Acetaldehyde | 0.08  | 0.08  | 0.08  | 0.08    |
| Acrolein     | 0.05  | 0.05  | 0.05  | 0.05    |
| Methanol     | 0.06  | 0.06  | 0.06  | 0.06    |
| Formaldehyde | 0.03  | 0.03  | 0.05  | 0.04    |
| Process Rate | Run1  | Run 2 | Run 3 | Average |



|          |     |       |       |     |
|----------|-----|-------|-------|-----|
|          | gpm | gpm   | gpm   | gpm |
| Beerfeed | 650 | 650.4 | 650.4 | 650 |

April 2025 - Leipsic Stack Test

| Test Results | Run 1 | Run 2 | Run 3 | Average |
|--------------|-------|-------|-------|---------|
|              | lb/hr | lb/hr | lb/hr | lb/hr   |
| SO2          | 38.32 | 38.4  | 54.2  | 43.64   |

| Marion Engineering Test - 07/10/2018 - 7/11/2018 - SV009 (RTO) |           |           |         |
|----------------------------------------------------------------|-----------|-----------|---------|
|                                                                | 7/10/2018 | 7/11/2018 | Average |
|                                                                | lb/hr     | lb/hr     | lb/hr   |
| Hydrogen Sulfide                                               | 0.0158    | 0.0252    | 0.021   |
| Carbonyl Sulfide*                                              | 0.0136    | 0.0177    | 0.016   |
| Carbon Disulfide*                                              | 0.0181    | 0.0384    | 0.028   |
| Methyl Mercaptan                                               | 0.0246    | 0.0195    | 0.022   |
| Dimethyl Sulfide                                               | 0.0377    | 0.0016    | 0.020   |
| n-Butyl Mercaptan                                              | 0.0437    | 0.0126    | 0.028   |
| Total Sulfur                                                   | 0.0964    | 0.0858    | 0.091   |

\*Hazardous Air Pollutant

| RTO (STRU 22)    |                                |          |                              |                        |                            |        |
|------------------|--------------------------------|----------|------------------------------|------------------------|----------------------------|--------|
|                  | Uncontrolled Potential to Emit |          | Controlled Potential to Emit | Existing Permit Limits | Proposed Potential to Emit |        |
|                  | lbs/hr                         | Unc. TPY | lbs/hr                       | lbs/hr                 | lbs/hr                     | TPY    |
| VOC              | 600.00                         | 2628.00  | 6.48                         | 12                     | 12.00                      | 52.56  |
| NOx              | 11.96                          | 52.38    | 11.96                        |                        | 11.96                      | 52.38  |
| CO               | 131.00                         | 573.78   | 5.74                         | 13.1                   | 13.10                      | 57.38  |
| PM               | 67.50                          | 295.65   | 13.42                        | 12                     | 13.50                      | 59.13  |
| PM10             | 67.50                          | 295.65   | 13.42                        | 12                     | 13.50                      | 59.13  |
| PM2.5            | 67.50                          | 295.65   | 13.42                        | 12                     | 13.50                      | 59.13  |
| SO2              | 50.00                          | 219.00   | 50.00                        | 6.85                   | 50.00                      | 219.00 |
| Acetaldehyde     | 20.70                          | 90.67    | 0.25                         | 1.035                  | 1.04                       | 4.53   |
| Acrolein         | 3.08                           | 13.47    | 0.15                         | 0.12                   | 0.15                       | 0.67   |
| Methanol         | 3.69                           | 16.17    | 0.18                         | 0.12                   | 0.18                       | 0.81   |
| Formaldehyde     | 12.00                          | 52.56    | 0.11                         | 0.6                    | 0.60                       | 2.63   |
| Carbonyl Sulfide | 0.63                           | 2.74     | 0.03                         |                        | 0.03                       | 0.14   |
| Carbon Disulfide | 1.13                           | 4.95     | 0.06                         |                        | 0.06                       | 0.25   |
| Total HAPs       | 41.22                          | 180.55   | 0.78                         |                        | 2.06                       | 9.03   |
| CO2              | 14494                          | 63485    | 14494                        |                        | 14494                      | 63485  |
| CH4              | 0.27                           | 1.19     | 0.27                         |                        | 0.27                       | 1.19   |
| N2O              | 0.03                           | 0.12     | 0.03                         |                        | 0.03                       | 0.12   |
| CO2e             | 14509                          | 63547    | 14509                        |                        | 14509                      | 63547  |

HAP Calculations from Combustion

| HAP Compound                   | Emission Factor<br>lb/MMSCF | Dryers                     |          |                          |          | RTO                        |          |                          |          | RTO and Dryers             |          |                          |          |
|--------------------------------|-----------------------------|----------------------------|----------|--------------------------|----------|----------------------------|----------|--------------------------|----------|----------------------------|----------|--------------------------|----------|
|                                |                             | Uncontrolled Emission Rate |          | Controlled Emission Rate |          | Uncontrolled Emission Rate |          | Controlled Emission Rate |          | Uncontrolled Emission Rate |          | Controlled Emission Rate |          |
|                                |                             | lb/hr                      | ton/year | lb/hr                    | ton/year | lb/hr                      | ton/year | lb/hr                    | ton/year | lb/hr                      | ton/year | lb/hr                    | ton/year |
| 2-Methylnaphthalene            | 2.40E-05                    | 2.49E-06                   | 1.09E-05 | 1.25E-07                 | 5.46E-07 | 4.24E-07                   | 1.86E-06 | 4.24E-07                 | 1.86E-06 | 2.92E-06                   | 1.28E-05 | 5.48E-07                 | 2.40E-06 |
| 3-Methylchloranthrene          | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 3.18E-08                   | 1.39E-07 | 3.18E-08                 | 1.39E-07 | 2.19E-07                   | 9.58E-07 | 4.11E-08                 | 1.80E-07 |
| 7,12-Dimethylbenz(a)anthracene | 1.60E-06                    | 1.66E-07                   | 7.28E-07 | 8.31E-09                 | 3.64E-08 | 2.82E-08                   | 1.24E-07 | 2.82E-08                 | 1.24E-07 | 1.95E-07                   | 8.52E-07 | 3.65E-08                 | 1.60E-07 |
| Acenaphthene                   | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 3.18E-08                   | 1.39E-07 | 3.18E-08                 | 1.39E-07 | 2.19E-07                   | 9.58E-07 | 4.11E-08                 | 1.80E-07 |
| Acenaphthylene                 | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 3.18E-08                   | 1.39E-07 | 3.18E-08                 | 1.39E-07 | 2.19E-07                   | 9.58E-07 | 4.11E-08                 | 1.80E-07 |
| Anthracene                     | 2.40E-06                    | 2.49E-07                   | 1.09E-06 | 1.25E-08                 | 5.46E-08 | 4.24E-08                   | 1.86E-07 | 4.24E-08                 | 1.86E-07 | 2.92E-07                   | 1.28E-06 | 5.48E-08                 | 2.40E-07 |
| Benz(a)anthracene              | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 3.18E-08                   | 1.39E-07 | 3.18E-08                 | 1.39E-07 | 2.19E-07                   | 9.58E-07 | 4.11E-08                 | 1.80E-07 |
| Benzene                        | 0.0021                      | 2.18E-04                   | 9.56E-04 | 1.09E-05                 | 4.78E-05 | 3.71E-05                   | 1.62E-04 | 3.71E-05                 | 1.62E-04 | 2.55E-04                   | 1.12E-03 | 4.80E-05                 | 2.10E-04 |
| Benzo(a)pyrene                 | 1.20E-06                    | 1.25E-07                   | 5.46E-07 | 6.24E-09                 | 2.73E-08 | 2.12E-08                   | 9.28E-08 | 2.12E-08                 | 9.28E-08 | 1.46E-07                   | 6.39E-07 | 2.74E-08                 | 1.20E-07 |
| Benzo(b)fluoranthene           | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 3.18E-08                   | 1.39E-07 | 3.18E-08                 | 1.39E-07 | 2.19E-07                   | 9.58E-07 | 4.11E-08                 | 1.80E-07 |
| Benzo(g,h,i)perylene           | 1.20E-06                    | 1.25E-07                   | 5.46E-07 | 6.24E-09                 | 2.73E-08 | 2.12E-08                   | 9.28E-08 | 2.12E-08                 | 9.28E-08 | 1.46E-07                   | 6.39E-07 | 2.74E-08                 | 1.20E-07 |
| Benzo(k)fluoranthene           | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 3.18E-08                   | 1.39E-07 | 3.18E-08                 | 1.39E-07 | 2.19E-07                   | 9.58E-07 | 4.11E-08                 | 1.80E-07 |

|                        |          |          |          |          |          |          |          |          |          |          |          |          |          |
|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Chrysene               | 1.80E-06 | 1.87E-07 | 8.19E-07 | 9.35E-09 | 4.10E-08 | 3.18E-08 | 1.39E-07 | 3.18E-08 | 1.39E-07 | 2.19E-07 | 9.58E-07 | 4.11E-08 | 1.80E-07 |
| Dibenzo(a,h)anthracene | 1.20E-06 | 1.25E-07 | 5.46E-07 | 6.24E-09 | 2.73E-08 | 2.12E-08 | 9.28E-08 | 2.12E-08 | 9.28E-08 | 1.46E-07 | 6.39E-07 | 2.74E-08 | 1.20E-07 |
| Dichlorobenzene        | 1.20E-03 | 1.25E-04 | 5.46E-04 | 6.24E-06 | 2.73E-05 | 2.12E-05 | 9.28E-05 | 2.12E-05 | 9.28E-05 | 1.46E-04 | 6.39E-04 | 2.74E-05 | 1.20E-04 |
| Fluoranthene           | 3.00E-06 | 3.12E-07 | 1.37E-06 | 1.56E-08 | 6.83E-08 | 5.29E-08 | 2.32E-07 | 5.29E-08 | 2.32E-07 | 3.65E-07 | 1.60E-06 | 6.85E-08 | 3.00E-07 |
| Fluorene               | 2.80E-06 | 2.91E-07 | 1.27E-06 | 1.45E-08 | 6.37E-08 | 4.94E-08 | 2.16E-07 | 4.94E-08 | 2.16E-07 | 3.40E-07 | 1.49E-06 | 6.40E-08 | 2.80E-07 |
| Hexane                 | 1.8      | 1.87E-01 | 8.19E-01 | 9.35E-03 | 4.10E-02 | 3.18E-02 | 1.39E-01 | 3.18E-02 | 1.39E-01 | 2.19E-01 | 9.58E-01 | 4.11E-02 | 1.80E-01 |
| Indeno(1,2,3-cd)pyrene | 1.80E-06 | 1.87E-07 | 8.19E-07 | 9.35E-09 | 4.10E-08 | 3.18E-08 | 1.39E-07 | 3.18E-08 | 1.39E-07 | 2.19E-07 | 9.58E-07 | 4.11E-08 | 1.80E-07 |
| Naphthalene            | 0.00061  | 6.34E-05 | 2.78E-04 | 3.17E-06 | 1.39E-05 | 1.08E-05 | 4.71E-05 | 1.08E-05 | 4.71E-05 | 7.42E-05 | 3.25E-04 | 1.39E-05 | 6.10E-05 |
| Phenanthrene           | 1.70E-05 | 1.77E-06 | 7.74E-06 | 8.83E-08 | 3.87E-07 | 3.00E-07 | 1.31E-06 | 3.00E-07 | 1.31E-06 | 2.07E-06 | 9.05E-06 | 3.88E-07 | 1.70E-06 |
| Pyrene                 | 5.00E-06 | 5.20E-07 | 2.28E-06 | 2.60E-08 | 1.14E-07 | 8.82E-08 | 3.86E-07 | 8.82E-08 | 3.86E-07 | 6.08E-07 | 2.66E-06 | 1.14E-07 | 5.00E-07 |
| Toluene                | 0.0034   | 3.53E-04 | 1.55E-03 | 1.77E-05 | 7.74E-05 | 6.00E-05 | 2.63E-04 | 6.00E-05 | 2.63E-04 | 4.13E-04 | 1.81E-03 | 7.77E-05 | 3.40E-04 |
| Arsenic                | 0.0002   | 2.08E-05 | 9.10E-05 | 2.08E-05 | 9.10E-05 | 3.53E-06 | 1.55E-05 | 3.53E-06 | 1.55E-05 | 2.43E-05 | 1.06E-04 | 2.43E-05 | 1.06E-04 |
| Beryllium              | 0.000012 | 1.25E-06 | 5.46E-06 | 1.25E-06 | 5.46E-06 | 2.12E-07 | 9.28E-07 | 2.12E-07 | 9.28E-07 | 1.46E-06 | 6.39E-06 | 1.46E-06 | 6.39E-06 |
| Cadmium                | 0.0011   | 1.14E-04 | 5.01E-04 | 1.14E-04 | 5.01E-04 | 1.94E-05 | 8.50E-05 | 1.94E-05 | 8.50E-05 | 1.34E-04 | 5.86E-04 | 1.34E-04 | 5.86E-04 |
| Chromium               | 0.0014   | 1.45E-04 | 6.37E-04 | 1.45E-04 | 6.37E-04 | 2.47E-05 | 1.08E-04 | 2.47E-05 | 1.08E-04 | 1.70E-04 | 7.45E-04 | 1.70E-04 | 7.45E-04 |
| Cobalt                 | 0.000084 | 8.73E-06 | 3.82E-05 | 8.73E-06 | 3.82E-05 | 1.48E-06 | 6.49E-06 | 1.48E-06 | 6.49E-06 | 1.02E-05 | 4.47E-05 | 1.02E-05 | 4.47E-05 |
| Lead                   | 0.0005   | 5.20E-05 | 2.28E-04 | 5.20E-05 | 2.28E-04 | 8.82E-06 | 3.86E-05 | 8.82E-06 | 3.86E-05 | 6.08E-05 | 2.66E-04 | 6.08E-05 | 2.66E-04 |
| Manganese              | 0.00038  | 3.95E-05 | 1.73E-04 | 3.95E-05 | 1.73E-04 | 6.71E-06 | 2.94E-05 | 6.71E-06 | 2.94E-05 | 4.62E-05 | 2.02E-04 | 4.62E-05 | 2.02E-04 |
| Mercury                | 0.00026  | 2.70E-05 | 1.18E-04 | 2.70E-05 | 1.18E-04 | 4.59E-06 | 2.01E-05 | 4.59E-06 | 2.01E-05 | 3.16E-05 | 1.38E-04 | 3.16E-05 | 1.38E-04 |
| Nickel                 | 0.0021   | 2.18E-04 | 9.56E-04 | 2.18E-04 | 9.56E-04 | 3.71E-05 | 1.62E-04 | 3.71E-05 | 1.62E-04 | 2.55E-04 | 1.12E-03 | 2.55E-04 | 1.12E-03 |
| Selenium               | 0.000025 | 2.60E-06 | 1.14E-05 | 2.60E-06 | 1.14E-05 | 4.41E-07 | 1.93E-06 | 4.41E-07 | 1.93E-06 | 3.04E-06 | 1.33E-05 | 3.04E-06 | 1.33E-05 |
| Total HAP              |          | 1.88E-01 | 8.25E-01 | 1.00E-02 | 4.39E-02 | 3.20E-02 | 1.40E-01 | 3.20E-02 | 1.40E-01 | 2.20E-01 | 9.66E-01 | 4.20E-02 | 1.84E-01 |

|            | Uncontrolled |        | Controlled |      |
|------------|--------------|--------|------------|------|
|            | lbs/hr       | TPY    | lbs/hr     | TPY  |
| Total HAPs | 41.44        | 181.52 | 2.10       | 9.21 |

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU50, TREA27, TREA19, TREA25**  
**Fermentation, Distillation, and Drying to produce DDGS**

With the November 2019 application, POET is proposing to replace the existing 3-chamber RTO (TREA14) with a new 5-chamber RTO (TREA27) The new RTO will control emissions from the fermentation system, the DDGS dryers, and the centrifuges. The fermentation system and centrifuges are sources of VOC and HAPs. The dryers have natural gas fired burners and are sources of TSP, PM10, NOx, SOx, CO, VOC and HAPs. The emission units are vented to a regenerative thermal oxidizer (RTO). Fermentation emissions will vent through the fermentation scrubber for control, then the CO2 plant to recover product, and then to the RTO. The RTO will control VOC HAPs, CO, and TSP emissions.

The new RTO will be equipped with natural gas fired burners rated at 30 MMBTU/hr and been designed to achieve a minimum of 95.0% reduction in VOC and HAP emissions. Additionally, the RTO will achieve 90% reduction in CO emissions. The RTO control efficiencies are based on and performance tests for VOC & HAPs.

Uncontrolled NOx, SOx and GHG emissions are assumed to be equal to combustion potential to emit. In addition to combustion emissions, the dryers generate PM, PM<sub>10</sub>, PM<sub>2.5</sub>, CO and VOC emissions as a result of the DDGS drying process. Uncontrolled potential to emit from drying wet cake cannot be easily calculated, so stack test data is used as potential to emit. Controlled emissions for PM, VOC, CO, and SO2 are equal to permit limits. Compliance with PM, VOC, and CO has been demonstrated through stack testing. Controlled NOx emissions are based on stack test results.

|                              |        |              |  |
|------------------------------|--------|--------------|--|
| RTO VOC Control Efficiency = | 98.00% | Design Basis |  |
| RTO HAP Control Efficiency = | 95.00% | Design Basis |  |
| RTO NOx Control Efficiency = | 0.00%  |              |  |
| RTO CO Control Efficiency =  | 90.00% | Design Basis |  |
| RTO PM Control Efficiency =  | 80.00% | Permit Limit |  |
| RTO SO2 Control Efficiency = | 0.00%  |              |  |
| Proposed beerfeed=           | 1000   | gpm          |  |
| Yearly operation limit=      | 8760   | hours        |  |
| EF safety factor =           | 1.25   |              |  |
| HAP safety Factor =          | 2      |              |  |

*Conversion:*      2000 lbs = 1 ton  
1020 MMBTU = 1 MMSCF

**Natural Gas Combustion**

| Unit   | Rated Capacity |
|--------|----------------|
| Dryers | 106 MMBTU/Hr   |
| RTO    | 30 MMBTU/Hr    |

| Pollutant | Emission Factor |                                      |
|-----------|-----------------|--------------------------------------|
|           | lb/MMBTU        | Source                               |
| SO2       | 0.0006          | AP-42 Section 1.4                    |
| CO2       | 116.89          | USEPA GHG Emission Factors, 11/19/15 |
| CH4       | 0.0022          | USEPA GHG Emission Factors, 11/19/15 |
| N2O       | 0.00022         | USEPA GHG Emission Factors, 11/19/15 |
| CO2e      | 117.0044        | USEPA GHG Emission Factors, 11/19/15 |

AP-42 emission factors from Section 1.4 were converted to lb/MMBTU assuming a heating value of 1020 Btu/ft3 for natural gas.

**PRE RTO Stack Test - 7/9/2019**

| Test Results | Run 1 | Run 2 | Run 3 | Average |
|--------------|-------|-------|-------|---------|
|              | lb/hr | lb/hr | lb/hr | lb/hr   |
| PM           | 5.24  | 8.01  | 7.7   | 6.98    |
| Nox          | 10.03 | 9.39  | 9.28  | 9.57    |
| CO           | 3     | 3.09  | 2.87  | 2.99    |
| VOC          | 3.04  | 3.9   | 3.18  | 3.37    |
| HAPs         | 0.22  | 0.21  | 0.23  | 0.22    |
| Acetaldehyde | 0.08  | 0.08  | 0.08  | 0.08    |
| Acrolein     | 0.05  | 0.05  | 0.05  | 0.05    |
| Methanol     | 0.06  | 0.06  | 0.06  | 0.06    |
| Formaldehyde | 0.03  | 0.03  | 0.05  | 0.04    |
| Process Rate | Run1  | Run 2 | Run 3 | Average |

|          |     |       |       |     |
|----------|-----|-------|-------|-----|
|          | gpm | gpm   | gpm   | gpm |
| Beerfeed | 650 | 650.4 | 650.4 | 650 |

April 2025 - Leipsic Stack Test

| Test Results | Run 1 | Run 2 | Run 3 | Average |
|--------------|-------|-------|-------|---------|
|              | lb/hr | lb/hr | lb/hr | lb/hr   |
| SO2          | 38.32 | 38.4  | 54.2  | 43.64   |

| Marion Engineering Test - 07/10/2018 - 7/11/2018 - SV009 (RTO) |           |           |         |
|----------------------------------------------------------------|-----------|-----------|---------|
|                                                                | 7/10/2018 | 7/11/2018 | Average |
|                                                                | lb/hr     | lb/hr     | lb/hr   |
| Hydrogen Sulfide                                               | 0.0158    | 0.0252    | 0.021   |
| Carbonyl Sulfide*                                              | 0.0136    | 0.0177    | 0.016   |
| Carbon Disulfide*                                              | 0.0181    | 0.0384    | 0.028   |
| Methyl Mercaptan                                               | 0.0246    | 0.0195    | 0.022   |
| Dimethyl Sulfide                                               | 0.0377    | 0.0016    | 0.020   |
| n-Butyl Mercaptan                                              | 0.0437    | 0.0126    | 0.028   |
| Total Sulfur                                                   | 0.0964    | 0.0858    | 0.091   |
| *Hazardous Air Pollutant                                       |           |           |         |

| RTO (STRU 50)    |                                |          |                              |                        |                            |        |
|------------------|--------------------------------|----------|------------------------------|------------------------|----------------------------|--------|
|                  | Uncontrolled Potential to Emit |          | Controlled Potential to Emit | Existing Permit Limits | Proposed Potential to Emit |        |
|                  | lbs/hr                         | Unc. TPY | lbs/hr                       | lbs/hr                 | lbs/hr                     | TPY    |
| VOC              | 600.00                         | 2628.00  | 6.48                         | 12                     | 12.00                      | 52.56  |
| NOx              | 11.96                          | 52.38    | 11.96                        |                        | 11.96                      | 52.38  |
| CO               | 131.00                         | 573.78   | 5.74                         | 13.1                   | 13.10                      | 57.38  |
| PM               | 67.50                          | 295.65   | 13.42                        | 12                     | 13.50                      | 59.13  |
| PM10             | 67.50                          | 295.65   | 13.42                        | 12                     | 13.50                      | 59.13  |
| PM2.5            | 67.50                          | 295.65   | 13.42                        | 12                     | 13.50                      | 59.13  |
| SO2              | 50.00                          | 219.00   | 50.00                        | 6.85                   | 50.00                      | 219.00 |
| Acetaldehyde     | 20.70                          | 90.67    | 0.25                         | 1.035                  | 1.04                       | 4.53   |
| Acrolein         | 3.08                           | 13.47    | 0.15                         | 0.12                   | 0.15                       | 0.67   |
| Methanol         | 3.69                           | 16.17    | 0.18                         | 0.12                   | 0.18                       | 0.81   |
| Formaldehyde     | 12.00                          | 52.56    | 0.11                         | 0.6                    | 0.60                       | 2.63   |
| Carbonyl Sulfide | 0.63                           | 2.74     | 0.03                         |                        | 0.03                       | 0.14   |
| Carbon Disulfide | 1.13                           | 4.95     | 0.06                         |                        | 0.06                       | 0.25   |
| Total HAPs       | 41.22                          | 180.55   | 0.78                         |                        | 2.06                       | 9.03   |
| CO2              | 15897                          | 69629    | 15897                        |                        | 15897                      | 69629  |
| CH4              | 0.30                           | 1.31     | 0.30                         |                        | 0.30                       | 1.31   |
| N2O              | 0.03                           | 0.13     | 0.03                         |                        | 0.03                       | 0.13   |
| CO2e             | 15913                          | 69697    | 15913                        |                        | 15913                      | 69697  |

HAP Calculations from Combustion

| HAP Compound                   | Emission Factor<br>lb/MMSCF | Dryers                     |          |                          |          | RTO                        |          |                          |          | RTO and Dryers             |          |                          |          |
|--------------------------------|-----------------------------|----------------------------|----------|--------------------------|----------|----------------------------|----------|--------------------------|----------|----------------------------|----------|--------------------------|----------|
|                                |                             | Uncontrolled Emission Rate |          | Controlled Emission Rate |          | Uncontrolled Emission Rate |          | Controlled Emission Rate |          | Uncontrolled Emission Rate |          | Controlled Emission Rate |          |
|                                |                             | lb/hr                      | ton/year | lb/hr                    | ton/year | lb/hr                      | ton/year | lb/hr                    | ton/year | lb/hr                      | ton/year | lb/hr                    | ton/year |
| 2-Methylnaphthalene            | 2.40E-05                    | 2.49E-06                   | 1.09E-05 | 1.25E-07                 | 5.46E-07 | 7.06E-07                   | 3.09E-06 | 7.06E-07                 | 3.09E-06 | 3.20E-06                   | 1.40E-05 | 8.31E-07                 | 3.64E-06 |
| 3-Methylchloranthrene          | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 5.29E-08                   | 2.32E-07 | 5.29E-08                 | 2.32E-07 | 2.40E-07                   | 1.05E-06 | 6.23E-08                 | 2.73E-07 |
| 7,12-Dimethylbenz(a)anthracene | 1.60E-06                    | 1.66E-07                   | 7.28E-07 | 8.31E-09                 | 3.64E-08 | 4.71E-08                   | 2.06E-07 | 4.71E-08                 | 2.06E-07 | 2.13E-07                   | 9.34E-07 | 5.54E-08                 | 2.43E-07 |
| Acenaphthene                   | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 5.29E-08                   | 2.32E-07 | 5.29E-08                 | 2.32E-07 | 2.40E-07                   | 1.05E-06 | 6.23E-08                 | 2.73E-07 |
| Acenaphthylene                 | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 5.29E-08                   | 2.32E-07 | 5.29E-08                 | 2.32E-07 | 2.40E-07                   | 1.05E-06 | 6.23E-08                 | 2.73E-07 |
| Anthracene                     | 2.40E-06                    | 2.49E-07                   | 1.09E-06 | 1.25E-08                 | 5.46E-08 | 7.06E-08                   | 3.09E-07 | 7.06E-08                 | 3.09E-07 | 3.20E-07                   | 1.40E-06 | 8.31E-08                 | 3.64E-07 |
| Benz(a)anthracene              | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 5.29E-08                   | 2.32E-07 | 5.29E-08                 | 2.32E-07 | 2.40E-07                   | 1.05E-06 | 6.23E-08                 | 2.73E-07 |
| Benzene                        | 0.0021                      | 2.18E-04                   | 9.56E-04 | 1.09E-05                 | 4.78E-05 | 6.18E-05                   | 2.71E-04 | 6.18E-05                 | 2.71E-04 | 2.80E-04                   | 1.23E-03 | 7.27E-05                 | 3.18E-04 |
| Benzo(a)pyrene                 | 1.20E-06                    | 1.25E-07                   | 5.46E-07 | 6.24E-09                 | 2.73E-08 | 3.53E-08                   | 1.55E-07 | 3.53E-08                 | 1.55E-07 | 1.60E-07                   | 7.01E-07 | 4.15E-08                 | 1.82E-07 |
| Benzo(b)fluoranthene           | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 5.29E-08                   | 2.32E-07 | 5.29E-08                 | 2.32E-07 | 2.40E-07                   | 1.05E-06 | 6.23E-08                 | 2.73E-07 |
| Benzo(g,h,i)perylene           | 1.20E-06                    | 1.25E-07                   | 5.46E-07 | 6.24E-09                 | 2.73E-08 | 3.53E-08                   | 1.55E-07 | 3.53E-08                 | 1.55E-07 | 1.60E-07                   | 7.01E-07 | 4.15E-08                 | 1.82E-07 |
| Benzo(k)fluoranthene           | 1.80E-06                    | 1.87E-07                   | 8.19E-07 | 9.35E-09                 | 4.10E-08 | 5.29E-08                   | 2.32E-07 | 5.29E-08                 | 2.32E-07 | 2.40E-07                   | 1.05E-06 | 6.23E-08                 | 2.73E-07 |

|                        |          |          |          |          |          |          |          |          |          |          |          |          |          |
|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Chrysene               | 1.80E-06 | 1.87E-07 | 8.19E-07 | 9.35E-09 | 4.10E-08 | 5.29E-08 | 2.32E-07 | 5.29E-08 | 2.32E-07 | 2.40E-07 | 1.05E-06 | 6.23E-08 | 2.73E-07 |
| Dibenzo(a,h)anthracene | 1.20E-06 | 1.25E-07 | 5.46E-07 | 6.24E-09 | 2.73E-08 | 3.53E-08 | 1.55E-07 | 3.53E-08 | 1.55E-07 | 1.60E-07 | 7.01E-07 | 4.15E-08 | 1.82E-07 |
| Dichlorobenzene        | 1.20E-03 | 1.25E-04 | 5.46E-04 | 6.24E-06 | 2.73E-05 | 3.53E-05 | 1.55E-04 | 3.53E-05 | 1.55E-04 | 1.60E-04 | 7.01E-04 | 4.15E-05 | 1.82E-04 |
| Fluoranthene           | 3.00E-06 | 3.12E-07 | 1.37E-06 | 1.56E-08 | 6.83E-08 | 8.82E-08 | 3.86E-07 | 8.82E-08 | 3.86E-07 | 4.00E-07 | 1.75E-06 | 1.04E-07 | 4.55E-07 |
| Fluorene               | 2.80E-06 | 2.91E-07 | 1.27E-06 | 1.45E-08 | 6.37E-08 | 8.24E-08 | 3.61E-07 | 8.24E-08 | 3.61E-07 | 3.73E-07 | 1.64E-06 | 9.69E-08 | 4.24E-07 |
| Hexane                 | 1.8      | 1.87E-01 | 8.19E-01 | 9.35E-03 | 4.10E-02 | 5.29E-02 | 2.32E-01 | 5.29E-02 | 2.32E-01 | 2.40E-01 | 1.05E+00 | 6.23E-02 | 2.73E-01 |
| Indeno(1,2,3-cd)pyrene | 1.80E-06 | 1.87E-07 | 8.19E-07 | 9.35E-09 | 4.10E-08 | 5.29E-08 | 2.32E-07 | 5.29E-08 | 2.32E-07 | 2.40E-07 | 1.05E-06 | 6.23E-08 | 2.73E-07 |
| Naphthalene            | 0.00061  | 6.34E-05 | 2.78E-04 | 3.17E-06 | 1.39E-05 | 1.79E-05 | 7.86E-05 | 1.79E-05 | 7.86E-05 | 8.13E-05 | 3.56E-04 | 2.11E-05 | 9.25E-05 |
| Phenanthrene           | 1.70E-05 | 1.77E-06 | 7.74E-06 | 8.83E-08 | 3.87E-07 | 5.00E-07 | 2.19E-06 | 5.00E-07 | 2.19E-06 | 2.27E-06 | 9.93E-06 | 5.88E-07 | 2.58E-06 |
| Pyrene                 | 5.00E-06 | 5.20E-07 | 2.28E-06 | 2.60E-08 | 1.14E-07 | 1.47E-07 | 6.44E-07 | 1.47E-07 | 6.44E-07 | 6.67E-07 | 2.92E-06 | 1.73E-07 | 7.58E-07 |
| Toluene                | 0.0034   | 3.53E-04 | 1.55E-03 | 1.77E-05 | 7.74E-05 | 1.00E-04 | 4.38E-04 | 1.00E-04 | 4.38E-04 | 4.53E-04 | 1.99E-03 | 1.18E-04 | 5.15E-04 |
| Arsenic                | 0.0002   | 2.08E-05 | 9.10E-05 | 2.08E-05 | 9.10E-05 | 5.88E-06 | 2.58E-05 | 5.88E-06 | 2.58E-05 | 2.67E-05 | 1.17E-04 | 2.67E-05 | 1.17E-04 |
| Beryllium              | 0.000012 | 1.25E-06 | 5.46E-06 | 1.25E-06 | 5.46E-06 | 3.53E-07 | 1.55E-06 | 3.53E-07 | 1.55E-06 | 1.60E-06 | 7.01E-06 | 1.60E-06 | 7.01E-06 |
| Cadmium                | 0.0011   | 1.14E-04 | 5.01E-04 | 1.14E-04 | 5.01E-04 | 3.24E-05 | 1.42E-04 | 3.24E-05 | 1.42E-04 | 1.47E-04 | 6.42E-04 | 1.47E-04 | 6.42E-04 |
| Chromium               | 0.0014   | 1.45E-04 | 6.37E-04 | 1.45E-04 | 6.37E-04 | 4.12E-05 | 1.80E-04 | 4.12E-05 | 1.80E-04 | 1.87E-04 | 8.18E-04 | 1.87E-04 | 8.18E-04 |
| Cobalt                 | 0.000084 | 8.73E-06 | 3.82E-05 | 8.73E-06 | 3.82E-05 | 2.47E-06 | 1.08E-05 | 2.47E-06 | 1.08E-05 | 1.12E-05 | 4.91E-05 | 1.12E-05 | 4.91E-05 |
| Lead                   | 0.0005   | 5.20E-05 | 2.28E-04 | 5.20E-05 | 2.28E-04 | 1.47E-05 | 6.44E-05 | 1.47E-05 | 6.44E-05 | 6.67E-05 | 2.92E-04 | 6.67E-05 | 2.92E-04 |
| Manganese              | 0.00038  | 3.95E-05 | 1.73E-04 | 3.95E-05 | 1.73E-04 | 1.12E-05 | 4.90E-05 | 1.12E-05 | 4.90E-05 | 5.07E-05 | 2.22E-04 | 5.07E-05 | 2.22E-04 |
| Mercury                | 0.00026  | 2.70E-05 | 1.18E-04 | 2.70E-05 | 1.18E-04 | 7.65E-06 | 3.35E-05 | 7.65E-06 | 3.35E-05 | 3.47E-05 | 1.52E-04 | 3.47E-05 | 1.52E-04 |
| Nickel                 | 0.0021   | 2.18E-04 | 9.56E-04 | 2.18E-04 | 9.56E-04 | 6.18E-05 | 2.71E-04 | 6.18E-05 | 2.71E-04 | 2.80E-04 | 1.23E-03 | 2.80E-04 | 1.23E-03 |
| Selenium               | 0.000025 | 2.60E-06 | 1.14E-05 | 2.60E-06 | 1.14E-05 | 7.35E-07 | 3.22E-06 | 7.35E-07 | 3.22E-06 | 3.33E-06 | 1.46E-05 | 3.33E-06 | 1.46E-05 |
| Total HAP              |          | 1.88E-01 | 8.25E-01 | 1.00E-02 | 4.39E-02 | 5.33E-02 | 2.34E-01 | 5.33E-02 | 2.34E-01 | 2.42E-01 | 1.06E+00 | 6.34E-02 | 2.78E-01 |

|            | Uncontrolled |        | Controlled |      |
|------------|--------------|--------|------------|------|
|            | lbs/hr       | TPY    | lbs/hr     | TPY  |
| Total HAPs | 41.46        | 181.61 | 2.12       | 9.31 |

POET Biorefining - Preston  
Preston, MN  
STRU43(existing)/STRU18(replacement)  
Flour Receiver

Flour is pneumatically conveyed away from the hammermills. A fabric filter is used to separate the air from the flour prior to the slurry tank. The filter is integral to the process and does not act as control equipment. The existing fabric filter is identified as EQUI213 and vents through STRU18. As part of the RINs expansion project, EQUI213 and STRU18 will be replaced with a fabric filter, EQUI204, and a new stack, STRU43. The exhaust flow rate will remain the same, therefore, the controlled potential to emit will remain the same.

|                      |                |                                |
|----------------------|----------------|--------------------------------|
| Max flour throughput | 120 Ton/Hr     | short-term throughput capacity |
|                      | 814,600 ton/yr | total facility annual limit    |
| Conversion - 1 year  | 8760 hours     |                                |
| Conversion - 1 ton = | 2000 lb        |                                |
| Conversion - 1 hr =  | 60 minutes     |                                |
| Conversion - 1 lb =  | 7000 grains    |                                |

|                | Emission Unit ID | Capacity |          | Emission Factors <sup>1</sup> lb/ton |      |       |
|----------------|------------------|----------|----------|--------------------------------------|------|-------|
|                |                  | ton/hr   | ton/year | PM                                   | PM10 | PM2.5 |
| Flour Receiver | EQUI204/EQUI213  | 120      | 814,600  | 1.2                                  | 1.2  | 1.20  |

<sup>1</sup> Emission factors are from AP-42 Table 9.9.1-2. PARTICULATE EMISSION FACTORS FOR GRAIN PROCESSING FACILITIES, March 2003: Hammermill (SCC 3-02-008-17) with an assumed 99% collection efficiency.

|                                           | PM    |          | PM10  |          | PM2.5 |          |
|-------------------------------------------|-------|----------|-------|----------|-------|----------|
|                                           | lb/hr | ton/year | lb/hr | ton/year | lb/hr | ton/year |
| Total Uncontrolled Emissions <sup>1</sup> | 144   | 488.8    | 144.0 | 488.8    | 144.0 | 488.8    |

<sup>1</sup>Uncontrolled emissions are based on the short term throughput capacity.

Controlled Emissions (STRU18 and STRU43)

Given:  
All point source emissions from these emission units will be controlled by a fabric filter.  
Maximum controlled TSP/PM10 emission rate = 0.004 gr/dscf  
Exhaust Flow Rate = 4,100 dscfm

|                                        |  | STRU18/43 Controlled Emissions |          |       |          |       |          |
|----------------------------------------|--|--------------------------------|----------|-------|----------|-------|----------|
|                                        |  | PM                             |          | PM10  |          | PM2.5 |          |
|                                        |  | lb/hr                          | ton/year | lb/hr | ton/year | lb/hr | ton/year |
|                                        |  | 0.14                           | 0.6      | 0.14  | 0.6      | 0.14  | 0.6      |
| Calculated Baghouse Control Efficiency |  | 99.9%                          |          | 99.9% |          | 99.9% |          |

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU41**  
**Centrifuges To Atmosphere Calculations**

Whole stillage is pumped to one set of three whole stillage centrifuges (EQUIs 214, 215, 216) where the solids (wet cake) is separated from the liquid (thin stillage). A fraction of the residual VOC and HAP contained in the whole stillage is emitted from the centrifuges during the separation process. The centrifuges are normally vented to the RTO. Therefore, the emissions were assumed to be uncontrolled only during RTO downtime.

Emission data from a performance test completed on April 18, 2017 for the centrifuge stacks at the POET plant in Mitchell, SD was used to calculate the potential to emit. The maximum performance test run result for each pollutant is increased linearly to correspond with the proposed centrifuge process rate and then a safety factor is added.

POET - Mitchell Stack Test Results April 18, 2017

| Test Results     | Run 1  | Run 2  | Run 3  | Average       | Maximum       |
|------------------|--------|--------|--------|---------------|---------------|
|                  | lb/hr  | lb/hr  | lb/hr  | lb/hr         | lb/hr         |
| VOC              | 1.92   | 1.82   | 1.57   | 1.77          | 1.920         |
| Formaldehyde     | 0.0020 | 0.0020 | 0.0020 | 0.002         | 0.002         |
| Methanol         | 0.0040 | 0.0040 | 0.0040 | 0.004         | 0.004         |
| Acetaldehyde     | 0.1620 | 0.1580 | 0.1230 | 0.148         | 0.162         |
| Acrolein         | 0.0092 | 0.0105 | 0.0019 | 0.0072        | 0.011         |
| <b>Total HAP</b> |        |        |        | <b>0.1609</b> | <b>0.1785</b> |

Process rates associated with above stack test results

| Process Rates = | Run 1  | Run 2  | Run 3  | Average       |
|-----------------|--------|--------|--------|---------------|
|                 | gpm    | gpm    | gpm    | gpm           |
| Centrifuges 1-4 | 831.68 | 831.43 | 821.48 | 828.2         |
| <b>Total</b>    |        |        |        | <b>828.20</b> |

900 gallons liquid per minute through centrifuges  
54,000 gallons liquid per hour through centrifuges  
473,040,000 gallons liquid per year through centrifuges  
500 Limited RTO Bypass Condition hours per year  
1.25 Safety Factor

|                  | Uncontrolled |              | Limited Emission |             |
|------------------|--------------|--------------|------------------|-------------|
|                  | lb/hr        | tpy          | lb/hr            | tpy         |
| <b>Total VOC</b> | <b>2.61</b>  | <b>11.42</b> | <b>2.61</b>      | <b>0.65</b> |
| Formaldehyde     | 0.00         | 0.01         | 0.00             | 0.00        |
| Methanol         | 0.01         | 0.02         | 0.01             | 0.00        |
| Acetaldehyde     | 0.22         | 0.96         | 0.22             | 0.06        |
| Acrolein         | 0.01         | 0.06         | 0.01             | 0.00        |
| <b>Total HAP</b> | <b>0.24</b>  | <b>1.06</b>  | <b>0.24</b>      | <b>0.06</b> |

Emissions Calculations

|                                    |              |                 |
|------------------------------------|--------------|-----------------|
| <b>Potential VOC Emission Rate</b> | <b>2.61</b>  | <b>lb/hr</b>    |
| <b>Potential VOC Emission Rate</b> | <b>11.42</b> | <b>ton/year</b> |
| <b>Limited VOC Emission Rate</b>   | <b>0.65</b>  | <b>ton/year</b> |

**POET Biorefining - Preston**

**Preston, MN**

**STRU9, STRU21**

Dryers Emergency RTO Bypass

Two dryers are used to dry wetcake to produce dried distillers grain with solubles (DDGS); Dryer #1 (EU015) and Dryer #2 (EU037). Each dryer includes a multiclone which reduces PM emissions. Exhaust gas from the dryers is routed through the RTO (EU058/CE020) and out stack SV029 during normal operations. In an emergency, exhaust gas from the dryers is routed through SV004 and SV023. Since these emissions are for emergency use only, emissions are not included in the potential emissions summary.



**POET Biorefining - Preston**  
**Preston, MN**  
**Storage Tanks**

| EQUI Number | VOC Emissions lb/year | VOC Emissions lb/hr | VOC Emissions ton/year | Description                             |                                                                      |
|-------------|-----------------------|---------------------|------------------------|-----------------------------------------|----------------------------------------------------------------------|
| 36          | 1442.00               | 0.16                | 0.72                   | 190 Proof Ethanol Storage Tank          | Assumed 80,000,000 gal/yr throughput                                 |
| 34          | 923.00                | 0.11                | 0.46                   | 200 Proof Ethanol Storage Tank (T804)   | Conservatively assumes all ethanol production goes through this tank |
| 35          | 515.00                | 0.06                | 0.26                   | 200 Proof Ethanol Storage Tank (T806)   | Conservatively assumes all ethanol production goes through this tank |
| 37          | 923.00                | 0.11                | 0.46                   | 200 Proof Ethanol Storage Tank (T803)   | Conservatively assumes all ethanol production goes through this tank |
| 38          | 2435.00               | 0.28                | 1.22                   | Denaturant Tank (T802)                  | Assume 4,000,000 gallons of denaturant (gasoline RVP 13)             |
| 212         | 566.04                | 0.06                | 0.28                   | Corrosion Inhibitor Storage Tank (T852) | Inputs based on SDS for Corrosion Inhibitor (DC-11)                  |

The HAP speciation profile from the TANKS 4.09 reports for denatured ethanol and denaturant was used to estimate the HAP emissions from the equipment leaks associated with the respective service. Please note that equipment in denatured ethanol and denaturant service conservatively represent less than 10% of the total equipment in operation at the facility.

| HAP Name     | Hap Fraction <sup>1</sup> | Denaturant Tank |        |         | Corrosion Inhibitor Storage Tank |        |         |
|--------------|---------------------------|-----------------|--------|---------|----------------------------------|--------|---------|
|              |                           | EQUI 38         |        |         | EQUI 212                         |        |         |
|              |                           | Lbs/yr          | Lbs/hr | Tons/yr | Lbs/yr                           | Lbs/hr | Tons/yr |
| Benzene      | 6.19E-03                  | 15.07           | 0.00   | 0.01    | 0.00                             | 0.00   | 0.00    |
| Ethylbenzene | 0.00E+00                  | 0.00            | 0.00   | 0.00    | 0.09                             | 0.00   | 0.00    |
| Hexane       | 4.97E-02                  | 121.02          | 0.01   | 0.06    | 0.00                             | 0.00   | 0.00    |
| Toluene      | 1.54E-03                  | 3.75            | 0.00   | 0.00    | 0.00                             | 0.00   | 0.00    |
| Xylenes      | 0.00E+00                  | 0.00            | 0.00   | 0.00    | 0.39                             | 0.00   | 0.00    |
| Methanol     | 0.00E+00                  | 0.00            | 0.00   | 0.00    | 59.72                            | 0.01   | 0.03    |
| Total        |                           | 139.84          | 0.02   | 0.07    | 60.20                            | 0.01   | 0.03    |

<sup>1</sup>Vapor Fraction for Benzene, Ethylbenzene, Hexane, Toluene, and Xylenes based on Enterprise Products SDS revised 07/08/2013 for natural gasoline.

POET Biorefining - Preston  
Preston, MN  
EQUI195/STRU46  
Whole Stillage Tank

The emissions from the whole stillage tank meet the requirements of Minn. Adm. Rule 7007.1300 Subpart3.I as an insignificant activity. PTE VOC are less than the 2,000 lbs/yr (1 ton/year). PRE is proactively assuming that the MPCA will require that an emission unit ID number be associated with this activity.

The Whole stillage tank is 9,000 gallon capacity. The whole stillage tank is vented to atmosphere.

Methodology:

- 1. It is assumed the liquid level sweeps up and down, between 20% (low level control) and 70% (high level control) twice per week, resulting in an average change in volume of 2571 gallons per day.
- 2. In dilute ethanol conditions, the slope of the ethanol vapor-liquid equilibrium equation (be weight) approaches 6. Therefore, the vapor space will be at six times the concentration of ethanol.
- 3. Analysis of whole stillage at POET Biorefining - Ashton on 4-21-2015 showed ethanol concentrations of 8 ppm ethanol and 1.7 ppm acetaldehyde. For normal conditions, a conservative value of 10 ppm ethanol and 2 ppm acetaldehyde is assumed. During upset conditions, ethanol concentrations could be as high as 500 ppm. Concentrations in excess of this result in observable changes in distillation which would trigger a response by operations. A maximum acetaldehyde concentrations of 2 ppm is assumed, as it is difficult to keep acetaldehyde in water solution above this concentration.

Conversions:                    1                    cubic foot                    =                    7.48                    gallons  
                                         1                    day                                =                    24                    hours

Given:  
Volume Fluctuations                    3,714 gallons per day  
Max Ethanol Concentration                    500 ppmw  
Max Acetaldehyde Conc.                    2 ppmw  
Flow Rate =                    50 gpm  
Service Temp =                    200 F  
                                         from ASME Steam Tables                    33.7 cubic foot per lb.  
                                         dilute concentrations of ethanol                    6 ethanol vapor weight fraction/ethanol liquid weight fraction

| Uncontrolled Emissions | lb/hr  | ton/year |
|------------------------|--------|----------|
| Ethanol                | 0.018  | 0.081    |
| Acetaldehyde           | 0.0001 | 0.0003   |
| Total VOC              | 0.018  | 0.081    |

POET Biorefining - Preston  
Preston, MN  
FUGI 12  
Wet cake production, storage and loadout

Wet cake production storage and loadout is a source of VOC and HAP emissions because the wet cake contains a small quantity of ethanol and HAPs. This source is not controlled. The emission factors for this process come from emissions testing at a similar facility. The operation of the dryers and DDGS cooler represent the “worst case” emission scenario and thus are presented in the potential to emit summary.

Wetcake is the grain solids from the whole stillage centrifuges, before being conveyed to the DDGS dryers. If it is not dried to produce DDGS, wetcake is stored on an outdoor pad located adjacent to the process building. Wetcake contains a small amount of residual VOC and HAP which are emitted during storage. Wetcake is loaded into trucks using a frontend loader. Since the wetcake has a high moisture content, wetcake loadout is not a source of particulate matter emissions.

Modified wetcake is being produced as local users may prefer the product over DDGS. DDGS is produced by the two dryers operating in series. Modified wet cake has been dried by only one dryer. It is drier than wet cake but not as dry as DDGS, and contains approximately 50% moisture.

The production of DDGS represent the “worst case” emission scenario as emissions from the dryers/RTO and the fluid bed cooler are greater than partially dried wet cake. The worst case emissions are presented in the potential to emit summary.

|              |          |                             |                    |
|--------------|----------|-----------------------------|--------------------|
| Given:       |          |                             |                    |
| Capacity =   | 48.0     | ton/hr                      |                    |
| Hours =      | 8,760    | hours                       |                    |
|              |          |                             | <b>Data Source</b> |
| VOC          | 0.008300 | lb/ton of wet cake produced | DENCO 2004 Test    |
| Acetaldehyde | 0.000100 | lb/ton of wet cake produced | DENCO 2004 Test    |
| Methanol     | 0.000040 | lb/ton of wet cake produced | DENCO 2004 Test    |
| Formaldehyde | 0.000200 | lb/ton of wet cake produced | DENCO 2004 Test    |
| Acrolein     | 0.000020 | lb/ton of wet cake produced | DENCO 2004 Test    |

| Pollutant    | Uncontrolled |        | Controlled |        |
|--------------|--------------|--------|------------|--------|
|              | lb/hr        | Ton/yr | lb/hr      | Ton/yr |
| VOC          | 0.398        | 1.745  | 0.398      | 1.745  |
| Acetaldehyde | 0.005        | 0.021  | 0.005      | 0.021  |
| Methanol     | 0.002        | 0.008  | 0.002      | 0.008  |
| Formaldehyde | 0.010        | 0.042  | 0.010      | 0.042  |
| Acrolein     | 0.001        | 0.004  | 0.001      | 0.004  |
| Total HAPs   | 0.017        | 0.076  | 0.017      | 0.076  |

**POET Biorefining - Preston  
Preston, MN  
EQUI196, STRU47  
Thin Stillage Tank**

The emissions from the thin stillage tank meet the requirements of Minn. Adm. Rule 7007.1300 Subpart3.I as an insignificant activity. PTE VOC are less than the 2,000 lbs/yr (1 ton/year). PRE is proactively assuming that the MPCA will require that an emission unit ID number be associated with this activity.

The thin stillage tank is 200,000 gallon capacity. The thin stillage tank is vented to atmosphere.

**Methodology:**

1. It is assumed the liquid level sweeps up and down, between 20% (low level control) and 90% (high level control) twice per week, resulting in an average change in volume of 20,000 gallons per day.
2. In dilute ethanol conditions, the slope of the ethanol vapor-liquid equilibrium equation (be weight) approaches 6. Therefore, the vapor space will be at six times the concentration of ethanol.
3. Analysis of whole stillage at POET Biorefining - Ashton on 4-21-2015 showed ethanol concentrations of 8 ppm ethanol and 1.7 ppm acetaldehyde. For normal conditions, a conservative value of 10 ppm ethanol and 2 ppm acetaldehyde is assumed. During upset conditions, ethanol concentrations could be as high as 500 ppm. Concentrations in excess of this result in observable changes in distillation which would trigger a response by operations. A maximum acetaldehyde concentrations of 2 ppm is assumed, as it is difficult to keep acetaldehyde in water solution above this concentration.

|              |   |            |   |      |         |
|--------------|---|------------|---|------|---------|
| Conversions: | 1 | cubic foot | = | 7.48 | gallons |
|              | 1 | day        | = | 24   | hours   |

Given:

|                                  |                                                                |
|----------------------------------|----------------------------------------------------------------|
| Volume Fluctuations              | 20,000 gallons per day                                         |
| Max Ethanol Concentration        | 500 ppmw                                                       |
| Max Acetaldehyde Conc.           | 2 ppmw                                                         |
| Flow Rate =                      | 370 gpm                                                        |
| Service Temp =                   | 190 F                                                          |
| from ASME Steam Tables           | 40.31 cubic foot per lb.                                       |
| dilute concentrations of ethanol | 6 ethanol vapor weight fraction/ethanol liquid weight fraction |

| Uncontrolled Emissions | lb/hr  | ton/year |
|------------------------|--------|----------|
| Ethanol                | 0.083  | 0.363    |
| Acetaldehyde           | 0.0003 | 0.0015   |
| Total VOC              | 0.083  | 0.365    |

**POET Biorefining - Preston**  
**Preston, MN**  
**EQUI211 & EQUI197**  
**STRU49 & STRU 48**  
**Syrup Tanks**

The emissions from the syrup tanks meet the requirements of Minn. Adm. Rule 7007.1300 Subpart3.I as an insignificant activity. PTE VOC are less than the 2,000 lbs/yr (1 ton/year). PRE is proactively assuming that the MPCA will require that an emission unit ID number be associated with this activity.

The syrup tanks are 50,000 and 20,000 gallon capacities. The syrup tanks are vented to atmosphere.

**Methodology:**

1. It is assumed the liquid level sweeps up and down, between 20% (low level control) and 70% (high level control) twice per week, resulting in an average change in volume of 20,000 gallons per day combined between the two tanks.
2. In dilute ethanol conditions, the slope of the ethanol vapor-liquid equilibrium equation (be weight) approaches 6. Therefore, the vapor space will be at six times the concentration of ethanol.
3. Analysis of whole stillage at POET Biorefining - Ashton on 4-21-2015 showed ethanol concentrations of 8 ppm ethanol and 1.7 ppm acetaldehyde. For normal conditions, a conservative value of 10 ppm ethanol and 2 ppm acetaldehyde is assumed. During upset conditions, ethanol concentrations could be as high as 500 ppm. Concentrations in excess of this result in observable changes in distillation which would trigger a response by operations. A maximum acetaldehyde concentrations of 2 ppm is assumed, as it is difficult to keep acetaldehyde in water solution above this concentration.

|              |   |            |   |      |         |
|--------------|---|------------|---|------|---------|
| Conversions: | 1 | cubic foot | = | 7.48 | gallons |
|              | 1 | day        | = | 24   | hours   |

**Given:**

|                                  |                                                                |
|----------------------------------|----------------------------------------------------------------|
| Volume Fluctuations              | 20,000 gallons per day                                         |
| Max Ethanol Concentration        | 500 ppmw                                                       |
| Max Acetaldehyde Conc.           | 2 ppmw                                                         |
| Flow Rate =                      | 50 gpm                                                         |
| Service Temp =                   | 200 F                                                          |
| from ASME Steam Tables           | 33.7 cubic foot per lb.                                        |
| dilute concentrations of ethanol | 6 ethanol vapor weight fraction/ethanol liquid weight fraction |

| Uncontrolled Emissions | lb/hr  | ton/year |
|------------------------|--------|----------|
| Ethanol                | 0.099  | 0.434    |
| Acetaldehyde           | 0.0004 | 0.0017   |
| Total VOC              | 0.100  | 0.436    |

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU1 and STRU34 Boiler Calculations**

The facility operates one 62.853 MMBtu/hr and one 73.339 MMBtu/hr natural gas fired steam boiler.  
 Permit #04500049-008 contains a combined fuel use limit for the boilers, DDGS dryers, and RTO of 5952 MMBtu/day. The total firing capacity of these units is 260.192 MMBtu/hr.  
 Both boilers are subject to the provisions of the United States Environmental Protection Agency's (USEPA's) New Source Performance Standard (NSPS), Subpart Db, Standard for Institutional, Commercial, and Industrial Steam Generating Units. The boilers are equipped with low NOx burners.

The potential emissions for the boilers are calculated by multiplying an emission factor by the rated capacity of the boilers. AP-42 emission factors from Section 1.4 were converted to lb/MMBtu assuming a heating value of 1000 Btu/ft<sup>3</sup> for natural gas. The emission factors are:

1 MMBTU = 1020 MMSCF  
 1 year = 8760 hours  
 1 ton = 2000 pounds

| Given:           | Natural Gas Firing Capacity | Daily Fuel Use Limit Ratio |
|------------------|-----------------------------|----------------------------|
| Boiler #1 Size=  | 62.853 MMBtu/hr             | 1508.5 MMBtu/day           |
| Boiler #2 Size = | 73.339 MMBtu/hr             | 1760.1 MMBtu/day           |

| Potential to Emit for Natural Gas |                 |                       |                                      | Boiler #1             |                                  | Boiler #2             |                                  |
|-----------------------------------|-----------------|-----------------------|--------------------------------------|-----------------------|----------------------------------|-----------------------|----------------------------------|
| Pollutant                         | Emission Factor | Emission Factor Units | Emission Factor Source               | Emission Rate (lb/hr) | Uncontrolled Emissions (tons/yr) | Emission Rate (lb/hr) | Uncontrolled Emissions (tons/yr) |
| TSP                               | 0.0075          | lb/MMBtu              | AP-42 Section 1.4                    | 0.47                  | 2.05                             | 0.55                  | 2.39                             |
| PM10                              | 0.0075          | lb/MMBtu              | AP-42 Section 1.4                    | 0.468                 | 2.05                             | 0.546                 | 2.39                             |
| PM2.5                             | 0.0075          | lb/MMBtu              |                                      | 0.468                 | 2.05                             | 0.546                 | 2.39                             |
| NOx                               | 0.040           | lb/MMBtu              | Preston Stack Test, 4/2003           | 2.51                  | 11.01                            | 2.93                  | 12.85                            |
|                                   | 0.0980          | lb/MMBtu              | AP-42 Section 1.4                    | 6.16                  | 26.99                            | 7.19                  | 31.49                            |
| SOx                               | 0.0006          | lb/MMBtu              | AP-42 Section 1.4                    | 0.04                  | 0.16                             | 0.04                  | 0.19                             |
| VOC                               | 0.0054          | lb/MMBtu              | AP-42 Section 1.4                    | 0.34                  | 1.48                             | 0.40                  | 1.73                             |
| CO                                | 0.082           | lb/MMBtu              | AP-42 Section 1.4                    | 5.18                  | 22.67                            | 6.04                  | 26.45                            |
| CO2                               | 116.89          | lb/MMBtu              | USEPA GHG Emission Factors, 11/19/15 | 7346.89               | 32179.37                         | 8572.60               | 37547.97                         |
| CH4                               | 0.0022          | lb/MMBtu              |                                      | 0.14                  | 0.61                             | 0.16                  | 0.71                             |
| N2O                               | 0.0002          | lb/MMBtu              |                                      | 0.01                  | 0.06                             | 0.02                  | 0.07                             |
| CO2e                              | 117.01          | lb/MMBtu              |                                      | 7354.46               | 32212.56                         | 8581.44               | 37586.70                         |

**Potential to Emit**

The boilers do not have control equipment other than low Nox burners; therefore, uncontrolled and controlled emissions are equal.

|              | TSP         | PM10        | PM2.5       | NOx          | SOx         | VOC         | CO           | CO2           | CH4         | N2O         | CO2e          |
|--------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|---------------|-------------|-------------|---------------|
|              | lb/hr       | lb/hr       | lb/hr       | lb/hr        | lb/hr       | lb/hr       | lb/hr        | lb/hr         | lb/hr       | lb/hr       | lb/hr         |
| Boiler #1    | 0.47        | 0.47        | 0.47        | 2.51         | 0.04        | 0.34        | 5.2          | 7,347         | 0.14        | 0.01        | 7,354         |
| Boiler #2    | 0.55        | 0.55        | 0.55        | 2.93         | 0.04        | 0.40        | 6.0          | 8,573         | 0.16        | 0.02        | 8,581         |
| <b>Total</b> | <b>1.01</b> | <b>1.01</b> | <b>1.01</b> | <b>5.45</b>  | <b>0.1</b>  | <b>0.7</b>  | <b>11.2</b>  | <b>15,919</b> | <b>0.3</b>  | <b>0.0</b>  | <b>15,936</b> |
|              | ton/year    | ton/year    | ton/year    | ton/year     | ton/year    | ton/year    | ton/year     | ton/year      | ton/year    | ton/year    | ton/year      |
| Boiler #1    | 2.05        | 2.05        | 2.05        | 11.01        | 0.16        | 1.48        | 22.67        | 32,179        | 0.61        | 0.06        | 32,213        |
| Boiler #2    | 2.39        | 2.39        | 2.39        | 12.85        | 0.19        | 1.73        | 26.45        | 37,548        | 0.71        | 0.07        | 37,587        |
| <b>Total</b> | <b>4.4</b>  | <b>4.4</b>  | <b>4.4</b>  | <b>23.86</b> | <b>0.35</b> | <b>3.22</b> | <b>49.13</b> | <b>69,727</b> | <b>1.31</b> | <b>0.13</b> | <b>69,799</b> |

**Limited Potential to Emit**

|              | TSP         | PM10        | PM2.5       | NOx          | SOx         | VOC         | CO           | CO2           | CH4         | N2O         | CO2e          |
|--------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|---------------|-------------|-------------|---------------|
|              | lb/hr       | lb/hr       | lb/hr       | lb/hr        | lb/hr       | lb/hr       | lb/hr        | lb/hr         | lb/hr       | lb/hr       | lb/hr         |
| Boiler #1    | 0.47        | 0.47        | 0.47        | 2.51         | 0.04        | 0.34        | 5.2          | 7,347         | 0.14        | 0.01        | 7,354         |
| Boiler #2    | 0.55        | 0.55        | 0.55        | 2.93         | 0.04        | 0.40        | 6.0          | 8,573         | 0.16        | 0.02        | 8,581         |
| <b>Total</b> | <b>1.01</b> | <b>1.01</b> | <b>1.01</b> | <b>5.45</b>  | <b>0.1</b>  | <b>0.7</b>  | <b>11.2</b>  | <b>15,919</b> | <b>0.3</b>  | <b>0.0</b>  | <b>15,936</b> |
|              | ton/year    | ton/year    | ton/year    | ton/year     | ton/year    | ton/year    | ton/year     | ton/year      | ton/year    | ton/year    | ton/year      |
| Boiler #1    | 2.05        | 2.05        | 2.05        | 11.01        | 0.16        | 1.48        | 22.7         | 32,179        | 0.61        | 0.06        | 32,213        |
| Boiler #2    | 2.39        | 2.39        | 2.39        | 12.85        | 0.19        | 1.73        | 26.5         | 37,548        | 0.71        | 0.07        | 37,587        |
| <b>Total</b> | <b>4.4</b>  | <b>4.4</b>  | <b>4.4</b>  | <b>23.86</b> | <b>0.35</b> | <b>3.22</b> | <b>49.13</b> | <b>69,727</b> | <b>1.31</b> | <b>0.13</b> | <b>69,799</b> |

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU1 and STRU34 Boiler Calculations**

**Hazardous Air Pollutant Calculations**

Emission Calculations Boiler #1

| HAP Compound                   | Emission Factor<br>lb/MMSCF | Emission Rate<br>Boiler #1<br>lb/hr | Potential to Emit<br>Boiler #1<br>ton/year |
|--------------------------------|-----------------------------|-------------------------------------|--------------------------------------------|
| 2-Methylnaphthalene            | 2.40E-05                    | 1.48E-06                            | 6.48E-06                                   |
| 3-Methylchloranthrene          | 1.80E-06                    | 1.11E-07                            | 4.86E-07                                   |
| 7,12-Dimethylbenz(a)anthracene | 1.60E-06                    | 9.86E-08                            | 4.32E-07                                   |
| Acenaphthene                   | 1.80E-06                    | 1.11E-07                            | 4.86E-07                                   |
| Acenaphthylene                 | 1.80E-06                    | 1.11E-07                            | 4.86E-07                                   |
| Anthracene                     | 2.40E-06                    | 1.48E-07                            | 6.48E-07                                   |
| Benz(a)anthracene              | 1.80E-06                    | 1.11E-07                            | 4.86E-07                                   |
| Benzene                        | 0.0021                      | 1.29E-04                            | 5.67E-04                                   |
| Benzo(a)pyrene                 | 1.20E-06                    | 7.39E-08                            | 3.24E-07                                   |
| Benzo(b)fluoranthene           | 1.80E-06                    | 1.11E-07                            | 4.86E-07                                   |
| Benzo(g,h,i)perylene           | 1.20E-06                    | 7.39E-08                            | 3.24E-07                                   |
| Benzo(k)fluoranthene           | 1.80E-06                    | 1.11E-07                            | 4.86E-07                                   |
| Chrysene                       | 1.80E-06                    | 1.11E-07                            | 4.86E-07                                   |
| Dibenzo(a,h)anthracene         | 1.20E-06                    | 7.39E-08                            | 3.24E-07                                   |
| Dichlorobenzene                | 1.20E-03                    | 7.39E-05                            | 3.24E-04                                   |
| Formaldehyde                   | 7.50E-02                    | 4.62E-03                            | 2.02E-02                                   |
| Fluoranthene                   | 3.00E-06                    | 1.85E-07                            | 8.10E-07                                   |
| Fluorene                       | 2.80E-06                    | 1.73E-07                            | 7.56E-07                                   |
| Hexane                         | 1.8                         | 1.11E-01                            | 4.86E-01                                   |
| Indeno(1,2,3-cd)pyrene         | 1.80E-06                    | 1.11E-07                            | 4.86E-07                                   |
| Naphthalene                    | 0.00061                     | 3.76E-05                            | 1.65E-04                                   |
| Phenanthrene                   | 1.70E-05                    | 1.05E-06                            | 4.59E-06                                   |
| Pyrene                         | 5.00E-06                    | 3.08E-07                            | 1.35E-06                                   |
| Toluene                        | 0.0034                      | 2.10E-04                            | 9.18E-04                                   |
| Arsenic                        | 0.0002                      | 1.23E-05                            | 5.40E-05                                   |
| Beryllium                      | 0.000012                    | 7.39E-07                            | 3.24E-06                                   |
| Cadmium                        | 0.0011                      | 6.78E-05                            | 2.97E-04                                   |
| Chromium                       | 0.0014                      | 8.63E-05                            | 3.78E-04                                   |
| Cobalt                         | 0.000084                    | 5.18E-06                            | 2.27E-05                                   |
| Lead                           | 0.0005                      | 3.08E-05                            | 1.35E-04                                   |
| Manganese                      | 0.00038                     | 2.34E-05                            | 1.03E-04                                   |
| Mercury                        | 0.00026                     | 1.60E-05                            | 7.02E-05                                   |
| Nickel                         | 0.0021                      | 1.29E-04                            | 5.67E-04                                   |
| Selenium                       | 0.000025                    | 1.54E-06                            | 6.75E-06                                   |
| Total HAPs                     |                             | 0.12                                | 0.51                                       |

Emission Calculations Boiler #2

| HAP Compound                   | Emission Factor<br>lb/MMSCF | Emission Rate<br>Boiler #2<br>lb/hr | Potential to Emit<br>Boiler #2<br>ton/year |
|--------------------------------|-----------------------------|-------------------------------------|--------------------------------------------|
| 2-Methylnaphthalene            | 2.40E-05                    | 1.73E-06                            | 7.56E-06                                   |
| 3-Methylchloranthrene          | 1.80E-06                    | 1.29E-07                            | 5.67E-07                                   |
| 7,12-Dimethylbenz(a)anthracene | 1.60E-06                    | 1.15E-07                            | 5.04E-07                                   |
| Acenaphthene                   | 1.80E-06                    | 1.29E-07                            | 5.67E-07                                   |
| Acenaphthylene                 | 1.80E-06                    | 1.29E-07                            | 5.67E-07                                   |
| Anthracene                     | 2.40E-06                    | 1.73E-07                            | 7.56E-07                                   |
| Benz(a)anthracene              | 1.80E-06                    | 1.29E-07                            | 5.67E-07                                   |
| Benzene                        | 0.0021                      | 1.51E-04                            | 6.61E-04                                   |
| Benzo(a)pyrene                 | 1.20E-06                    | 8.63E-08                            | 3.78E-07                                   |
| Benzo(b)fluoranthene           | 1.80E-06                    | 1.29E-07                            | 5.67E-07                                   |
| Benzo(g,h,i)perylene           | 1.20E-06                    | 8.63E-08                            | 3.78E-07                                   |
| Benzo(k)fluoranthene           | 1.80E-06                    | 1.29E-07                            | 5.67E-07                                   |
| Chrysene                       | 1.80E-06                    | 1.29E-07                            | 5.67E-07                                   |
| Dibenzo(a,h)anthracene         | 1.20E-06                    | 8.63E-08                            | 3.78E-07                                   |
| Dichlorobenzene                | 1.20E-03                    | 8.63E-05                            | 3.78E-04                                   |
| Formaldehyde                   | 7.50E-02                    | 5.39E-03                            | 2.36E-02                                   |
| Fluoranthene                   | 3.00E-06                    | 2.16E-07                            | 9.45E-07                                   |
| Fluorene                       | 2.80E-06                    | 2.01E-07                            | 8.82E-07                                   |
| Hexane                         | 1.8                         | 1.29E-01                            | 5.67E-01                                   |
| Indeno(1,2,3-cd)pyrene         | 1.80E-06                    | 1.29E-07                            | 5.67E-07                                   |
| Naphthalene                    | 0.00061                     | 4.39E-05                            | 1.92E-04                                   |
| Phenanthrene                   | 1.70E-05                    | 1.22E-06                            | 5.35E-06                                   |

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU1 and STRU34 Boiler Calculations**

|            |          |             |             |
|------------|----------|-------------|-------------|
| Pyrene     | 5.00E-06 | 3.60E-07    | 1.57E-06    |
| Toluene    | 0.0034   | 2.44E-04    | 1.07E-03    |
| Arsenic    | 0.0002   | 1.44E-05    | 6.30E-05    |
| Beryllium  | 0.000012 | 8.63E-07    | 3.78E-06    |
| Cadmium    | 0.0011   | 7.91E-05    | 3.46E-04    |
| Chromium   | 0.0014   | 1.01E-04    | 4.41E-04    |
| Cobalt     | 0.000084 | 6.04E-06    | 2.65E-05    |
| Lead       | 0.0005   | 3.60E-05    | 1.57E-04    |
| Manganese  | 0.00038  | 2.73E-05    | 1.20E-04    |
| Mercury    | 0.00026  | 1.87E-05    | 8.19E-05    |
| Nickel     | 0.0021   | 1.51E-04    | 6.61E-04    |
| Selenium   | 0.000025 | 1.80E-06    | 7.87E-06    |
| Total HAPs |          | <b>0.14</b> | <b>0.59</b> |



POET Biorefining - Preston  
Preston, MN  
STRU20, TREA22  
Fluid Bed Cooler

After being processed through the dryer, DDGS is routed to the fluid bed. The fluid bed is controlled by a fabric filter (TREA22). The Fluid Bed is also a source of VOC and HAP emissions. These emissions are routed through the fluid bed stack and are uncontrolled. A portion of the fluid bed exhaust may also be routed to the DDGS dryer burners (EQUI 20 and EQUI 61) as combustion air.

|                                         |                  |                                |
|-----------------------------------------|------------------|--------------------------------|
| Max DDGS Handling to Fluid Bed          | 32 Ton/Hr        | short-term throughput capacity |
|                                         | 221,920 ton/year | total facility annual limit    |
| Maximum Beerfeed                        | 1,000 gpm        |                                |
| Capture Efficiency of Aspiration System | 100%             |                                |
| Conversion - 1 year =                   | 8760 hours       |                                |
| Conversion - 1 ton =                    | 2000 lbs         |                                |
| Conversion - 1 hr =                     | 60 minutes       |                                |
| Conversion - 1 lb =                     | 7000 grains      |                                |
| Safety Factor                           | 1.25             |                                |

|                  | Emission Unit ID |
|------------------|------------------|
| Fluid Bed Cooler | EQUI23           |

Controlled Emissions

Given:  
All point source emissions from these emission units will be controlled by a fabric filter.  
Maximum controlled TSP/PM10 emission rate = 0.006 gr/dscf  
Exhaust Flow Rate = 40,000 dscfm

| SV022 Controlled Emissions  |        |          |        |          |        |          |
|-----------------------------|--------|----------|--------|----------|--------|----------|
|                             | PM     |          | PM10   |          | PM2.5  |          |
|                             | lb/hr  | ton/year | lb/hr  | ton/year | lb/hr  | ton/year |
| Controlled Emissions        | 2.06   | 9.0      | 2.06   | 9.0      | 2.06   | 9.0      |
| Baghouse Control Efficiency | 99.00% |          | 93.00% |          | 93.00% |          |
| Uncontrolled Emissions      | 205.7  | 901.0    | 29.4   | 128.7    | 29.4   | 128.7    |

\*Control efficiencies are based on the Control Equipment Rule. The units are total enclosure.

| Marion Engineering Test - 04/23/2024 04/24/2024 - SV010 (Fluid Bed) |           |           |           |           |         |
|---------------------------------------------------------------------|-----------|-----------|-----------|-----------|---------|
|                                                                     | 4/22/2024 | 4/23/2024 | 4/23/2024 | 4/24/2024 | Average |
| Pollutant                                                           | lb/hr     | lb/hr     | lb/hr     | lb/hr     | lb/hr   |
| SO2                                                                 | 0.56      | 0.26      | 0.052     | 0.055     | 0.23    |

| Preston Stack Test Results - 7/16/219 |       |       |       |         |
|---------------------------------------|-------|-------|-------|---------|
| Pollutant                             | Run 1 | Run 2 | Run 3 | Average |
|                                       | lb/hr | lb/hr | lb/hr | lb/hr   |
| VOC                                   | 0.45  | 0.75  | 1.01  | 0.74    |
| Acetaldehyde                          | 0.04  | 0.04  | 0.04  | 0.04    |
| Acrolein                              | 0.02  | 0.02  | 0.02  | 0.02    |
| Formaldehyde                          | 0.01  | 0.01  | 0.01  | 0.01    |
| Methanol                              | 0.03  | 0.03  | 0.03  | 0.03    |
| Total HAP                             | 0.10  | 0.10  | 0.10  | 0.10    |
|                                       | gpm   | gpm   | gpm   | gpm     |
| Beerfeed                              | 649.8 | 649.8 | 650.3 | 649.97  |

| Pollutant        | Potential to Emit<br>(Based on Past Test) | Current Permit<br>Limit | Limited Potential to Emit |       | Uncontrolled Potential to<br>Emit |       |
|------------------|-------------------------------------------|-------------------------|---------------------------|-------|-----------------------------------|-------|
|                  | lbs/hr                                    | lbs/hr                  | lbs/hr                    | TPY   | lbs/hr                            | TPY   |
| SO2              | 0.84                                      |                         | 0.84                      | 3.68  | 0.84                              | 3.68  |
| VOC              | 1.42                                      | 8.0                     | 8.00                      | 35.04 | 8.00                              | 35.04 |
| Acetaldehyde     | 0.08                                      |                         | 0.08                      | 0.34  | 0.08                              | 0.34  |
| Acrolein         | 0.04                                      |                         | 0.04                      | 0.17  | 0.04                              | 0.17  |
| Formaldehyde     | 0.02                                      |                         | 0.02                      | 0.08  | 0.02                              | 0.08  |
| Methanol         | 0.06                                      |                         | 0.06                      | 0.25  | 0.06                              | 0.25  |
| Carbonyl Sulfide | 0.02                                      |                         | 0.02                      | 0.07  | 0.02                              | 0.07  |
| Carbon Disulfide | 0.02                                      |                         | 0.02                      | 0.08  | 0.02                              | 0.08  |
| Total HAP        | 0.23                                      |                         | 0.23                      | 0.99  | 0.23                              | 0.99  |

POET Biorefining - Preston  
Preston, MN  
EQUI199, EQUI5, EQUI225, EQUI177, EQUI200, EQUI8, EQUI179, EQUI201, EQUI202  
DDGS Flat Storage, Reclaim and Truck Loadout

Dried and cooled distillers grain (DDGS) can be diverted to a silo for storage or to the flat storage. Flat storage is located in the same building as grain receiving #1, the Grains and DDGS Building #1. DDGS from flat storage or the DDGS storage silo is loaded out to truck. The DDGS handling to the silo is enclosed and aspirated. The filling of the silo is controlled and vented through SV016. Emissions from that activity are calculated on a prior page. Piling of DDGS on flat storage and removing via reclaim pits occurs within a building but is not aspirated. The loading of DDGS to trucks or containers via the DDGS elevator, the truck loadout spout, and/or the portable container loadout occurs within a building but is not aspirated. At the direction of MPCA (during GLE permit process), no capture credit for a building enclosure is allowed without completion of a building capture study. Emissions from flat storage loading and storage, reclaiming DDGS, and truck and container loadout, which are all uncontrolled, are calculated on this page.

Some DDGS produced will be diverted to the silo and some will be diverted to flat storage. For these calculations and the associated modeling, it is assumed that 100% of the DDGS produced will be directed to the silo and 100% will be directed to flat storage, which overestimates emissions.

Max DDGS Rate to flat storage 50 Ton/Hr short term throughput of separating cyclone  
221,920 ton/year total facility annual throughput limit of DDGS  
Max DDGS Loaded to Truck 1,500 ton/day  
Truck loadout hours per day 14 hours 5am to 7pm Hour limit applies to EQUI225,177,200,8,179,201,& 202 (Equipment Related to DDGS Loadout). EQUI199 & 5 may operate 24/7.  
Conversions -1 ton = 2000 lbs  
Conversion - 1 year = 8760 hours

|                            | Emission Factors <sup>1</sup> lb/ton |        |        |
|----------------------------|--------------------------------------|--------|--------|
|                            | PM                                   | PM10   | PM2.5  |
| Feed shipping <sup>1</sup> | 0.0033                               | 0.0008 | 0.0008 |

<sup>1</sup> Emission factors are from AP-42 Table 9.9.1-2. PARTICULATE EMISSION FACTORS FOR GRAIN PROCESSING FACILITIES, March 2003.

|                                 |                  | Capacity |          | PM                  |                     |                       |                  | DDGS storage, reclaim, and truck loadout |                     |                       |                |                  | PM2.5              |                     |                       |                  |  |
|---------------------------------|------------------|----------|----------|---------------------|---------------------|-----------------------|------------------|------------------------------------------|---------------------|-----------------------|----------------|------------------|--------------------|---------------------|-----------------------|------------------|--|
|                                 |                  | ton/hr   | ton/year | uncontrolled lb/hr  | uncontrolled lb/day | uncontrolled ton/year | limited ton/year | uncontrolled lb/hr                       | uncontrolled lb/day | uncontrolled ton/year | Limited lb/day | limited ton/year | uncontrolled lb/hr | uncontrolled lb/day | uncontrolled ton/year | limited ton/year |  |
| Description                     | Emission Unit ID |          |          |                     |                     |                       |                  |                                          |                     |                       |                |                  |                    |                     |                       |                  |  |
| DDGS Flat Storage Conveyor      | EQUI199          | 50       | 221,920  | 0.165               | 3.960               | 0.723                 | 0.366            | 0.040                                    | 0.960               | 0.175                 | 0.960          | 0.089            | 0.040              | 0.960               | 0.175                 | 0.089            |  |
| DDGS Storage Building           | EQUI5            | 50       | 221,920  | 0.165               | 3.960               | 0.723                 | 0.366            | 0.040                                    | 0.960               | 0.175                 | 0.960          | 0.089            | 0.040              | 0.960               | 0.175                 | 0.089            |  |
| DDGS Storage Building Handling  | EQUI225          | 50       | 221,920  | 0.165               | 3.960               | 0.723                 | 0.366            | 0.040                                    | 0.960               | 0.175                 | 0.560          | 0.089            | 0.040              | 0.960               | 0.175                 | 0.089            |  |
| DDGS Reclaim Pit                | EQUI177          | 47.5     | 221,920  | 0.157               | 3.762               | 0.687                 | 0.366            | 0.038                                    | 0.912               | 0.166                 | 0.532          | 0.089            | 0.038              | 0.912               | 0.166                 | 0.089            |  |
| DDGS Reclaim Pit Conveyor       | EQUI200          | 47.5     | 221,920  | 0.157               | 3.762               | 0.687                 | 0.366            | 0.038                                    | 0.912               | 0.166                 | 0.532          | 0.089            | 0.038              | 0.912               | 0.166                 | 0.089            |  |
| DDGS Loadout Elevator           | EQUI8            | 184      | 221,920  | 0.607               | 14.573              | 2.660                 | 0.366            | 0.147                                    | 3.533               | 0.645                 | 1.200          | 0.089            | 0.147              | 3.533               | 0.645                 | 0.089            |  |
| DDGS Truck Loadout Spout        | EQUI179          | 184      | 221,920  | 0.607               | 14.573              | 2.660                 | 0.366            | 0.147                                    | 3.533               | 0.645                 | 1.200          | 0.089            | 0.147              | 3.533               | 0.645                 | 0.089            |  |
| DDGS Truck Loadout Pit Conveyor | EQUI201          | 50       | 221,920  | 0.165               | 3.960               | 0.723                 | 0.366            | 0.040                                    | 0.960               | 0.175                 | 0.560          | 0.089            | 0.040              | 0.960               | 0.175                 | 0.089            |  |
| DDGS Portable Container Loadout | EQUI202          | 184      | 221,920  | 0.607               | 14.573              | 2.660                 | 0.366            | 0.147                                    | 3.533               | 0.645                 | 1.200          | 0.089            | 0.147              | 3.533               | 0.645                 | 0.089            |  |
| Total Uncontrolled Emissions    |                  |          |          | 2.795               | 67.082              | 12.243                | 3.296            | 0.678                                    | 16.262              | 2.968                 | 7.704          | 0.799            | 0.678              | 16.262              | 2.968                 | 0.799            |  |
|                                 |                  |          |          | Average lb/hr 2.795 |                     |                       |                  | Average lb/hr 0.678                      |                     |                       |                |                  |                    | Average lb/hr 0.678 |                       |                  |  |

| Emission Factors (DDGS Handling) <sup>1</sup> |          |
|-----------------------------------------------|----------|
| Pollutant                                     | lb/ton   |
| VOC                                           | 2.44E-03 |
| Acetaldehyde                                  | 2.03E-04 |
| Acrolein                                      | 1.84E-04 |
| Methanol                                      | 2.28E-04 |
| Formaldehyde                                  | 3.73E-05 |

<sup>1</sup>See "DDGS Silo STRU17" tab

5AM-7PM: 0.493 lb/hr  
7PM - 5AM: 0.08 lb/hr

Safety Factor = 3

|                                 |                  | Capacity |          | VOC                |                       |                  | Acetaldehyde       |                       |                  | Acrolein           |                       |                  | Methanol           |                       |                  | Formaldehyde       |                       |                  |
|---------------------------------|------------------|----------|----------|--------------------|-----------------------|------------------|--------------------|-----------------------|------------------|--------------------|-----------------------|------------------|--------------------|-----------------------|------------------|--------------------|-----------------------|------------------|
| Description                     | Emission Unit ID | ton/hr   | ton/year | Uncontrolled lb/hr | Uncontrolled ton/year | Limited ton/year | Uncontrolled lb/hr | Uncontrolled ton/year | Limited ton/year | Uncontrolled lb/hr | Uncontrolled ton/year | Limited ton/year | Uncontrolled lb/hr | Uncontrolled ton/year | Limited ton/year | Uncontrolled lb/hr | Uncontrolled ton/year | Limited ton/year |
| DDGS Flat Storage Conveyor      | EQUI199          | 50       | 221920   | 0.365              | 1.600                 | 0.811            | 0.030              | 0.133                 | 0.068            | 0.028              | 0.121                 | 0.061            | 0.034              | 0.150                 | 0.076            | 0.006              | 0.024                 | 0.012            |
| DDGS Storage Building           | EQUI5            | 50       | 221920   | 0.365              | 1.600                 | 0.811            | 0.030              | 0.133                 | 0.068            | 0.028              | 0.121                 | 0.061            | 0.034              | 0.150                 | 0.076            | 0.006              | 0.024                 | 0.012            |
| DDGS Storage Building Handling  | EQUI225          | 50       | 221920   | 0.365              | 1.600                 | 0.811            | 0.030              | 0.133                 | 0.068            | 0.028              | 0.121                 | 0.061            | 0.034              | 0.150                 | 0.076            | 0.006              | 0.024                 | 0.012            |
| DDGS Reclaim Pit                | EQUI177          | 47.5     | 221920   | 0.347              | 1.520                 | 0.811            | 0.029              | 0.127                 | 0.068            | 0.026              | 0.115                 | 0.061            | 0.032              | 0.142                 | 0.076            | 0.005              | 0.023                 | 0.012            |
| DDGS Reclaim Pit Conveyor       | EQUI200          | 47.5     | 221920   | 0.347              | 1.520                 | 0.811            | 0.029              | 0.127                 | 0.068            | 0.026              | 0.115                 | 0.061            | 0.032              | 0.142                 | 0.076            | 0.005              | 0.023                 | 0.012            |
| DDGS Loadout Elevator           | EQUI8            | 184      | 221920   | 1.345              | 5.889                 | 0.811            | 0.112              | 0.491                 | 0.068            | 0.102              | 0.446                 | 0.061            | 0.126              | 0.551                 | 0.076            | 0.021              | 0.090                 | 0.012            |
| DDGS Truck Loadout Spout        | EQUI179          | 184      | 221920   | 1.345              | 5.889                 | 0.811            | 0.112              | 0.491                 | 0.068            | 0.102              | 0.446                 | 0.061            | 0.126              | 0.551                 | 0.076            | 0.021              | 0.090                 | 0.012            |
| DDGS Truck Loadout Pit Conveyor | EQUI201          | 50       | 221920   | 0.365              | 1.600                 | 0.811            | 0.030              | 0.133                 | 0.068            | 0.028              | 0.121                 | 0.061            | 0.034              | 0.150                 | 0.076            | 0.006              | 0.024                 | 0.012            |
| DDGS Portable Container Loadout | EQUI202          | 184      | 221920   | 1.345              | 5.889                 | 0.811            | 0.112              | 0.491                 | 0.068            | 0.102              | 0.446                 | 0.061            | 0.126              | 0.551                 | 0.076            | 0.021              | 0.090                 | 0.012            |
| Total Uncontrolled Emissions    |                  |          |          | 6.190              | 27.111                | 7.298            | 0.516              | 2.258                 | 0.608            | 0.468              | 2.061                 | 0.552            | 0.579              | 2.535                 | 0.682            | 0.095              | 0.415                 | 0.112            |

Methodology

Emission Factor (lb/ton) = average stack test result (lb/hr) / average tested throughput (ton/hr)  
Hourly PTE (lbs/hr) = Emission factor (lb/ton) x proposed throughput (ton/hr) x safety factor  
Annual PTE (@ 8760 hrs/yr)(tons/yr) = Hourly PTE (lb/hr) x 8760 hours/yr / 2000 lbs/ton  
Annual Limited PTE (tons/yr) = Emission factor (lb/ton) x proposed throughput (ton/yr) x safety factor / 2000 (lbs/ton)

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU17, TREA20**  
**DDGS Silo, DDGS Silo Bypass**

Dried and cooled distillers grain (DDGS) can be diverted to a silo for storage or to the flat storage. Flat storage is located in the same building where grain is received. The emissions associated with filling the silo (DDGS piling in the silo) are calculated below. For the uncontrolled emissions, it is assumed that 100% of the DDGS produced will be directed to the silo, which is overly conservative. A fabric filter (TREA20) controls emissions from the silo.

Max DDGS Rate to Silo                      32 Ton/Hr      short-term throughput capacity  
                                                          221,920 ton/yr      total facility annual limit

Capture Efficiency of Aspiration System      100%

                                 Conversion - 1 year =      8760 hours  
                                  Conversion - 1 ton =      2000 lbs  
                                  Conversion - 1 hr =      60 minutes  
                                  Conversion - 1 lb =      7000 grains

|                              | Emission Unit<br>ID | Capacity |          |
|------------------------------|---------------------|----------|----------|
|                              |                     | ton/hr   | ton/year |
| DDGS Silo                    | EQUI 11             | 32       | 221,920  |
| DDG Separating Cyclone       | EQUI 83             | 32       | 221,920  |
| DDGS Silo Unloading Conveyor | EQUI 198            | 184      | 221,920  |

**Controlled Emissions**

Given:

All point source emissions from these emission units will be controlled by a fabric filter.

Maximum controlled TSP/PM10 emission rate =                      0.004 gr/dscf

Exhaust Flow Rate =                      2,000 dscfm

|                             |  | STRU17 Controlled Emissions |          |        |          |        |          |
|-----------------------------|--|-----------------------------|----------|--------|----------|--------|----------|
|                             |  | PM                          |          | PM10   |          | PM2.5  |          |
|                             |  | lb/hr                       | ton/year | lb/hr  | ton/year | lb/hr  | ton/year |
| Controlled Emissions        |  | 0.07                        | 0.3      | 0.07   | 0.3      | 0.07   | 0.3      |
| Baghouse Control Efficiency |  | 99.00%                      |          | 93.00% |          | 93.00% |          |
| Uncontrolled Emissions      |  | 6.9                         | 30.0     | 1.0    | 4.3      | 1.0    | 4.3      |

\*Control efficiencies are based on the Control Equipment Rule. The units are total enclosure

**Potential to Emit - VOC, SO2 & HAP Emissions**

DDGS handling is a source of VOC and HAP emissions, and SO2 when dosing SBS to the dryer system for DON mitigation. The following calculations are for the emissions of VOC, HAPs, and SO2. The baghouse does not control VOCs, HAPs, or SO2, so the emissions are exhausted as uncontrolled.

**POET - Gowrie Stack Test 11-9-17 - Grain Receiving/DDGS Loadout Baghouse**

| Test Results | Run 1  | Run 2  | Run 3  | Average |
|--------------|--------|--------|--------|---------|
|              | lb/hr  | lb/hr  | lb/hr  | lb/hr   |
| VOC          | 0.25   | 0.26   | 0.25   | 0.25    |
| Process Rate | Run1   | Run 2  | Run 3  | Average |
|              | ton/hr | ton/hr | ton/hr | ton/hr  |
| DDGS Loadout | 104    | 104    | 104    | 104     |

**POET - Corning Stack Test 10-25-17 - Grain Receiving/DDGS Loadout Baghouse**

|              |        |        |        |         |
|--------------|--------|--------|--------|---------|
| Acetaldehyde | 0.025  | 0.042  | 0.031  | 0.033   |
| Acrolein     | 0.031  | 0.029  | 0.029  | 0.030   |
| Methanol     | 0.032  | 0.039  | 0.039  | 0.037   |
| Formaldehyde | 0.006  | 0.006  | 0.006  | 0.006   |
| Process Rate | Run1   | Run 2  | Run 3  | Average |
|              | ton/hr | ton/hr | ton/hr | ton/hr  |
| DDGS Loadout | 161    | 161    | 161    | 161     |

| Emission Factors (DDGS Handling) |          |
|----------------------------------|----------|
| Pollutant                        | lb/ton   |
| VOC                              | 2.44E-03 |
| Acetaldehyde                     | 2.03E-04 |
| Acrolein                         | 1.84E-04 |
| Methanol                         | 2.28E-04 |
| Formaldehyde                     | 3.73E-05 |

| Marion Engineering Test - 07/12/2018 SV011<br>(DDGS Storage Silo) |                    |
|-------------------------------------------------------------------|--------------------|
| Pollutant                                                         | 7/10/2018<br>lb/hr |
| Hydrogen Sulfide                                                  | 0.0046             |
| Carbonyl Sulfide*                                                 | 0.0026             |
| Carbon Disulfide*                                                 | 0.0031             |

\*Hazardous Air Pollutant

Safety Factor = 3

| Pollutant                    | Uncontrolled | Uncontrolled<br>(based<br>on 8760<br>hrs/yr) | Limited Uncontrolled <sup>2</sup> | Controlled | Controlled (based<br>on 8760 hrs/yr) | Limited Controlled <sup>2</sup> |
|------------------------------|--------------|----------------------------------------------|-----------------------------------|------------|--------------------------------------|---------------------------------|
|                              | lbs/hr       | Unc. TPY                                     | TPY                               | lbs/hr     | TPY                                  | TPY                             |
| SO <sub>2</sub> <sup>3</sup> | 0.42         | 0.10                                         | 0.10                              | 0.42       | 0.10                                 | 0.10                            |
| VOC                          | 0.23         | 1.02                                         | 0.81                              | 0.23       | 1.02                                 | 0.81                            |
| Acetaldehyde                 | 0.02         | 0.09                                         | 0.07                              | 0.02       | 0.09                                 | 0.07                            |
| Acrolein                     | 0.02         | 0.08                                         | 0.06                              | 0.02       | 0.08                                 | 0.06                            |
| Methanol                     | 0.02         | 0.10                                         | 0.08                              | 0.02       | 0.10                                 | 0.08                            |
| Formaldehyde                 | 0.00         | 0.02                                         | 0.01                              | 0.00       | 0.02                                 | 0.01                            |
| Carbonyl Sulfide             | 0.01         | 0.03                                         | 0.03                              | 0.01       | 0.03                                 | 0.03                            |
| Carbon Disulfide             | 0.01         | 0.04                                         | 0.04                              | 0.01       | 0.04                                 | 0.04                            |
| Total HAPs                   | 0.08         | 0.35                                         | 0.29                              | 0.08       | 0.35                                 | 0.29                            |

<sup>1</sup> Emission factors are determined based on stack tests completed at POET - Gowrie and POET - Corning.

<sup>2</sup> Limited is based on annual throughput

<sup>3</sup> SO<sub>2</sub> emission estimates from fluid bed baghouse/2.

#### Methodology

Emission Factor (lb/ton) = average stack test result (lb/hr) / average tested throughput (ton/hr)

Uncontrolled PTE (lbs/hr) = Emission factor (lb/ton) x proposed throughput (ton/hr) x safety factor

Uncontrolled PTE (tons/yr) = Uncontrolled PTE (lb/hr) x 8760 hours/yr / 2000 lbs/ton

Limited Uncontrolled PTE (tons/yr) = Emission factor (lb/ton) x annual throughput (tons/yr) / 2000 lbs \* safety factor

Controlled PTE (lbs/hr) = uncontrolled PTE (lbs/hr)

Controlled PTE (tons/yr) = Uncontrolled PTE (tons/yr)

Limited Controlled PTE (tons/yr) = Limited uncontrolled PTE (tons/yr)

**POET Biorefining - Preston**  
**Preston, MN**  
**STRU 16, TREA 6**  
**Ethanol Loadout Racks**

**Emission Factors: AP-42, Section 5.2, September 1995**

Denatured ethanol will be loaded into trucks. The trucks may be used to carry gasoline prior to filling with ethanol. The trucks will be filled by submerged loading process. Truck loadout operations will be controlled by a flare, which has a control efficiency of 95% for VOC and HAPs.

According to AP-42, Chapter 5.2 - Transportation and Marketing of Petroleum Liquids (01/95), the VOC emission factors for the truck loading racks can be estimated from the following equation:

$$L = 12.46 \times (SPM)/T$$

where:

L = loading loss (lbs/kgal)  
S = a saturation factor (see AP-42, Table 5.2-1)  
P = true vapor pressure of the liquid loaded (psia)  
M = molecular weight of vapors  
T = temperature of the bulk liquid loaded (degree R)

| Previous Stored Liquid                       | S   | P (psia) | M (lbs/mole lbs) | T (degree R) | L (lbs/kgal) |
|----------------------------------------------|-----|----------|------------------|--------------|--------------|
| Gasoline (dedicated vapor balance)           | 1.0 | 6.1643   | 60               | 505          | 9.13         |
| Gasoline (clean cargo)                       | 0.5 | 6.1643   | 60               | 505          | 4.56         |
| Denatured Ethanol (dedicated normal)         | 0.6 | 0.5371   | 50.07            | 505          | 0.40         |
| Denatured Ethanol (clean cargo)              | 0.5 | 0.5371   | 50.07            | 505          | 0.33         |
| Denatured Ethanol to Truck (Source Specific) |     |          |                  |              | 4.89         |

Vapor pressure data from Tanks 4.0 based on Rochester, MN meteorological data

Assumes denatured ethanol is 5% denaturant - uses gasoline RVP 15 to represent denaturant

**1. Uncontrolled Potential to Emit for VOC:**

(1) Truck loadout = :

Denatured Loadout = 100%

Total Undenatured Loadout<sup>1</sup> = 81.37

Total Loadout<sup>2</sup> = 85.7

Total Loadout = 1000

Mmgal/yr  
gpm

85.7 MMgal/yr

Denatured Ethanol Loading Rate limit for truck:

PTE of VOC before Control (tons/yr) = 85.65 MMgal/yr x 4.89 lbs/kgal, x 1 ton/2000 lbs =

**293.7 lbs/hr**  
**209.6 tons/yr**  
**209.6 tons/yr**

**Total:**

<sup>1</sup> Total undenatured loadout is based on the maximum annual production of undenatured ethanol and the storage capacity of TK010, TK011, and TK012.

<sup>1</sup> Total loadout is based on the maximum annual production of undenatured ethanol and the storage capacity of TK010, TK011, and TK012, assuming all loaded out as denatured ethanol with 5% denaturant.

**2. Limited Potential to Emit:**

Annual Production Limit: 85,655 kgal/yr (total)  
Annual Controlled Truck Loading Limit: 85,655 kgal/yr (truck loading limit)  
Flare Control Efficiency: 98%  
Flare Capture Efficiency: 99.2%

(1) Truck loadout = :

PTE of captured VOC from denatured ethanol truck loading (lb/hr) =  
PTE of captured VOC from denatured ethanol truck loading (tons/yr) =  
PTE of uncaptured VOC from denatured ethanol truck loading (lb/hr) =  
PTE of uncaptured VOC from denatured ethanol truck loading (tons/yr) =

Total PTE from ethanol truck loadout (lb/hr) =  
Total PTE from ethanol truck loadout (ton/yr) =

| Controlled VOC Emissions |             |
|--------------------------|-------------|
| 5.83 lb/hr               | STRU16      |
| 4.16 tons/yr             |             |
| 2.35 lb/hr               | EQUI 67, 71 |
| 1.68 tons/yr             |             |

### 3. Potential to Emit HAPs:

HAP emissions are from the unloading process for trucks, which may have been used to ship gasoline previously.

| HAP          | HAP Fraction* | PTE of HAP before control (lb/hr) | PTE of HAP before Control (tons/yr) | STRU16                                               |                                                    | EQUI 67, 71                              |                                        | STRU16/EQUI 67, 71                         |                                           |
|--------------|---------------|-----------------------------------|-------------------------------------|------------------------------------------------------|----------------------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------------|-------------------------------------------|
|              |               |                                   |                                     | Limited PTE of HAP after Control (captured)(tons/yr) | Limited PTE of HAP after Control (captured)(lb/hr) | Limited PTE of HAP (uncaptured)(tons/yr) | Limited PTE of HAP (uncaptured)(lb/hr) | Limited PTE of HAP after Control (tons/yr) | Limited PTE of HAP after Control (lbs/hr) |
| Benzene      | 2.30E-02      | 6.75E+00                          | 4.82                                | 0.10                                                 | 0.13                                               | 0.04                                     | 0.05                                   | 1.34E-01                                   | 1.88E-01                                  |
| Naphthalene  | 1.00E-02      | 2.94E+00                          | 2.10                                | 0.04                                                 | 0.06                                               | 0.02                                     | 0.02                                   | 5.84E-02                                   | 8.18E-02                                  |
| Cumene       | 1.00E-02      | 2.94E+00                          | 2.10                                | 0.04                                                 | 0.06                                               | 0.02                                     | 0.02                                   | 5.84E-02                                   | 8.18E-02                                  |
| Ethylbenzene | 2.00E-02      | 5.87E+00                          | 4.19                                | 0.08                                                 | 0.12                                               | 0.03                                     | 0.05                                   | 1.17E-01                                   | 1.64E-01                                  |
| Hexane       | 7.00E-02      | 2.06E+01                          | 14.67                               | 0.29                                                 | 0.41                                               | 0.12                                     | 0.16                                   | 4.09E-01                                   | 5.72E-01                                  |
| Toluene      | 1.50E-01      | 4.41E+01                          | 31.44                               | 0.62                                                 | 0.87                                               | 0.25                                     | 0.35                                   | 8.75E-01                                   | 1.23E+00                                  |
| Xylenes      | 1.50E-01      | 4.41E+01                          | 31.44                               | 0.62                                                 | 0.87                                               | 0.25                                     | 0.35                                   | 8.75E-01                                   | 1.23E+00                                  |
| <b>Total</b> | <b>0.43</b>   | <b>127.16</b>                     | <b>90.8</b>                         | <b>1.80</b>                                          | <b>2.52</b>                                        | <b>0.73</b>                              | <b>1.02</b>                            | <b>2.53</b>                                | <b>3.54</b>                               |

\* This is the highest HAP percentage for gasoline vapors as per the Flint Hills gasoline SDS, issue date of 12-03-2014. Assumed truck tanker hauled gasoline for prior load.

#### Methodology

PTE of HAP before Control (tons/yr) = PTE of VOC before Control (tons/yr) x HAP Fraction

Limited PTE of HAP after Control (tons/yr) = Limited PTE of VOC by Trucks (tons/yr) x HAP Fraction

#### Flare Emissions

Given: Natural Gas Firing Capacity  
Flare Capacity = 55 SCF/hr = 0.055 MMBtu/hr

| Pollutant               | Emission Factor | Emission Factor Units | Emission Factor Source | Emission Rate (lb/hr) | Uncontrolled Emissions (tons/yr) |
|-------------------------|-----------------|-----------------------|------------------------|-----------------------|----------------------------------|
| TSP                     | 7.6000          | lb/MMCF               | AP-42 Section 1.       | 4.18E-04              | 1.83E-03                         |
| PM10                    | 7.6000          | lb/MMCF               | AP-42 Section 1.       | 4.18E-04              | 1.83E-03                         |
| PM2.5                   | 7.6000          | lb/MMCF               | AP-42 Section 1.       | 4.18E-04              | 1.83E-03                         |
| NOx                     | 100.00          | lb/MMCF               | AP-42 Section 1.       | 5.50E-03              | 0.02                             |
| SOx                     | 0.6000          | lb/MMCF               | AP-42 Section 1.       | 3.30E-05              | 1.45E-04                         |
| VOC                     | 5.5000          | lb/MMCF               | AP-42 Section 1.       | 3.03E-04              | 1.32E-03                         |
| CO                      | 84.0000         | lb/MMCF               | AP-42 Section 1.       | 4.62E-03              | 0.02                             |
| CO2                     | 116.8900        | lb/MMBTU              | USEPA GHG              | 6.43E+00              | 28.16                            |
| CH4                     | 0.0022          | lb/MMBTU              | Emission               | 1.21E-04              | 5.30E-04                         |
| N2O                     | 0.0002          | lb/MMBTU              | Factors,               | 1.10E-05              | 4.82E-05                         |
| CO2e                    | 117.0000        | lb/MMBTU              | 11/19/15               | 6.44E+00              | 28.19                            |
| Annual Production Limit |                 |                       |                        |                       | kgal/yr                          |
|                         |                 |                       |                        |                       | 85,655                           |

| Emission Factor                             | Pollutant   |             |                   |                   |             |                   |              |             |             |              |
|---------------------------------------------|-------------|-------------|-------------------|-------------------|-------------|-------------------|--------------|-------------|-------------|--------------|
|                                             | PM*         | PM10*       | SO <sub>2</sub> * | NOx**             | VOC***      | CO**              | CO2          | CH4         | N2O         | CO2e         |
|                                             | NA          | NA          | NA                | 1.68E-05 (lb/gal) |             | 3.92E-05 (lb/gal) | NA           | NA          | NA          | NA           |
| <b>Limited Potential to Emit in tons/yr</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>       | <b>0.74</b>       | <b>4.16</b> | <b>1.70</b>       | <b>28.16</b> | <b>0.00</b> | <b>0.00</b> | <b>28.19</b> |
| <b>Limited Potential to Emit in lbs/hr</b>  | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>       | <b>1.01</b>       | <b>5.87</b> | <b>2.36</b>       | <b>6.43</b>  | <b>0.00</b> | <b>0.00</b> | <b>6.44</b>  |

Emissions are sum of ethanol flaring and flare natural gas pilot.

\*PM, PM10, and SO<sub>2</sub> emission factors are negligible due to the smokeless design and minimal H<sub>2</sub>S levels.

\*\*Emission factors for NO<sub>x</sub> and CO are based on the information provided by the flare manufacturer (John Zink Company).

\*\*\* VOC emission calculations can be found above in loading rack calculations.

#### Methodology

Limited PTE of NOx and CO (tons/yr) = Annual Production Limit (kgal/yr) x Emission Factor (lbs/kgal) x 1 ton/2000 lbs

POET Biorefining - Preston  
Preston, MN  
EQUI 203  
Corn Oil System

1 year = 8760 hours  
1 ton = 2000 lbs

| Corn Oil System |                  |                      |
|-----------------|------------------|----------------------|
| VOC emissions   | 0.26 lb/year     | As documented in PDF |
|                 | 0.00003 lb/hr    |                      |
|                 | 0.00013 ton/year |                      |

**POET Biorefining - Preston**  
**Preston, MN**  
**FUGI 7 & FUGI 13 Emission Calculations**

The facility is subject to NSPS Subpart VV and VVa for equipment leaks of VOC in the synthetic Organic Chemical Manufacturing Industry. The facility chooses to implement NSPS Subpart VVa instead of VV for all equipment leaks. VOC emissions are calculated in two parts. Part 1 calculates emissions from the ethanol production process. Part 2 calculates emissions from the ethanol storage and loadout operations in the tank farm area. In-line blending of denaturant occurs, which minimizes the number of components in denaturant service, specifically, denaturant HAPs. Part 3 combines emission from the two areas into the total potential emissions from equipment leaks.

**Part 1: Equipment Leaks from Production Process Sources in VOC service**

These factors assume the working fluid is 100% VOC by wt.

| Equipment Type       | Service      | Emission Factor (lbs/hour/source) |
|----------------------|--------------|-----------------------------------|
| Pump Seals           | light liquid | 0.04379                           |
|                      | Heavy liquid | 0.0180                            |
| Valves               | light liquid | 0.008866                          |
|                      | Heavy liquid | 0.0005                            |
| Compressors          | gas          | 0.013134                          |
|                      | gas          | 0.5016                            |
| Relief Valves        | gas          | 0.2288                            |
| Sampling Connections | all          | 0.033                             |
| Open Ended Lines     | all          | 0.00374                           |
| Connectors           | all          | 0.004026                          |

Conversions  
1 year = 8760 hours  
1 ton = 2000 lbs

Emission Factors (EPA-453/R-95-017, Table 2-1)

For sources where the working fluid is < 90% VOC by weight, i.e. in beer service. The emission factors are multiplied by the VOC wt. % to calculate the appropriate emission rate.

**Sources in 90% or greater VOC service (assume 100% VOC by wt.)**

| Equipment Type       | Number of sources | Uncontrolled VOC Emissions lbs/hr | TPY         |
|----------------------|-------------------|-----------------------------------|-------------|
| Pump Seals           | 16                | 0.70                              | 3.1         |
| Valves lt. Liq.      | 459               | 4.07                              | 17.8        |
| Valves gas           | 140               | 1.83                              | 8.0         |
| Compressors          | 0                 | 0.00                              | 0.0         |
| Relief Valves        | 21                | 4.80                              | 21.0        |
| Sampling Connections | 24                | 0.79                              | 3.5         |
| Open Ended Lines     | 0                 | 0.00                              | 0.0         |
| Connectors           | 1182              | 4.76                              | 20.8        |
| <b>Total VOCs</b>    | <b>Total</b>      | <b>16.96</b>                      | <b>74.3</b> |

**Sources in Beer service (assume 15% VOC by wt.)**

| Equipment Type       | Number of sources | Uncontrolled VOC Emissions lbs/hr | TPY        |
|----------------------|-------------------|-----------------------------------|------------|
| Pump Seals           | 16                | 0.04                              | 0.2        |
| Valves Hvy. Liq.     | 80                | 0.01                              | 0.0        |
| Valves gas           | 0                 | 0.00                              | 0.0        |
| Compressors          | 0                 | 0.00                              | 0.0        |
| Relief Valves        | 25                | 0.86                              | 3.8        |
| Sampling Connections | 18                | 0.09                              | 0.4        |
| Open Ended Lines     | 0                 | 0.00                              | 0.0        |
| Connectors           | 350               | 0.21                              | 0.9        |
| <b>Total VOCs</b>    | <b>Total</b>      | <b>1.21</b>                       | <b>5.3</b> |

Credit for emission reduction attributable to control equipments and a Leak Detection and Repair (LDAR) Program is warranted (see EPA-453/R-95-017, chapter 5). NSPS subpart VVa is implemented at the facility.

**Summary of Equipment Modifications and Control Efficiency**

| Equipment Type       | Number of Sources Modified | Modification                                               | Control % |
|----------------------|----------------------------|------------------------------------------------------------|-----------|
| Pump Seals           | 0                          | Dual mechanical seal with barrier fluid at higher pressure | 100       |
| Valves lt. Liq.      | 0                          |                                                            |           |
| Valves gas           | 0                          |                                                            |           |
| Compressors          | 0                          |                                                            |           |
| Relief Valves        | 0                          | Rupture disk assembly                                      | 100       |
| Sampling Connections | 0                          |                                                            |           |
| Open Ended Lines     | 0                          | Blind, cap, plug or second valve                           | 100       |
| Connectors           | 0                          |                                                            |           |

**Control Effectiveness for a LDAR Program**

| Control effectiveness (%) for Subpart VVa monitoring 500 ppmv leak definition for all components except pumps. Pump leak rate definition = 2000 ppm. <sup>1</sup> |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Equipment Type                                                                                                                                                    |    |
| Pump Seals                                                                                                                                                        | 69 |
| Valves lt. Liq.                                                                                                                                                   | 88 |
| Valves gas                                                                                                                                                        | 92 |
| Connectors <sup>2</sup>                                                                                                                                           | 93 |
| Relief Valves <sup>3</sup>                                                                                                                                        | 92 |

<sup>1</sup>Control effectiveness is based upon a 500 ppm leak detection from Chapter 4, Preferred and alternative methods for estimating fugitive emissions from equipment

<sup>2</sup>Table 5-2, Protocol for Equipment Leak Emission Estimates, USEPA EPA-453/R-95-017, November 1995.

<sup>3</sup>Table 5-2, Protocol for Equipment Leak Emission Estimates, USEPA EPA-453/R-95-017, November 1995, Valves-Gas under HON Reg Neg.

**Controlled VOC Emissions from Process Equipment**

| Equipment Type       | VOC Emissions lbs/hr | TPY         |
|----------------------|----------------------|-------------|
| Pump Seals           | 0.23                 | 1.010       |
| Valves lt. Liq.      | 0.49                 | 2.142       |
| Valves gas           | 0.15                 | 0.642       |
| Compressors          | 0.00                 | 0.000       |
| Relief Valves        | 0.45                 | 1.984       |
| Sampling Connections | 0.88                 | 3.859       |
| Open Ended Lines     | 0.00                 | 0.000       |
| Connectors           | 0.35                 | 1.524       |
| <b>Total VOCs</b>    | <b>2.5</b>           | <b>11.2</b> |



**POET Biorefining - Preston**  
**Preston, MN**  
**FUGI 7 & FUGI 13 Emission Calculations**

**Part 2: Equipment Leaks from Equipment in VOC Service in the Tank Farm**

HAP speciation profile from the TANKS 4.09 reports for denaturated ethanol and denaturant was used to estimate the HAP emissions from the equipment leaks associated with the respective service.

These factors assume the working fluid is 100% VOC by wt

| Equipment Type       | Service      | Emission Factor (lbs/hour/source) | Emission Factors (EPA-453/R-95-017, Table 2-1) |
|----------------------|--------------|-----------------------------------|------------------------------------------------|
| Pump Seals           | light liquid | 0.04378                           |                                                |
| Valves               | light liquid | 0.008866                          |                                                |
| Valves               | gas          | 0.013134                          |                                                |
| Compressors          | gas          | 0.5016                            |                                                |
| Relief Valves        | gas          | 0.2288                            |                                                |
| Sampling Connections | all          | 0.033                             |                                                |
| Open Ended Lines     | all          | 0.00374                           |                                                |
| Connectors           | all          | 0.004026                          |                                                |

**Uncontrolled Fugitive Emissions from Tank Farm Equipment in Denaturant service**

| Equipment Type       | Number of sources | VOC Emissions lbs/hr | TPY        |
|----------------------|-------------------|----------------------|------------|
| Pump Seals           | 2                 | 0.09                 | 0.4        |
| Valves lt. Liq.      | 45                | 0.40                 | 1.7        |
| Valves gas           | 0                 | 0.00                 | 0.0        |
| Compressors          | 0                 | 0.00                 | 0.0        |
| Relief Valves        | 0                 | 0.00                 | 0.0        |
| Sampling Connections | 1                 | 0.04                 | 0.2        |
| Open Ended Lines     | 0                 | 0.00                 | 0.0        |
| Connectors           | 200               | 0.81                 | 3.5        |
| <b>Total</b>         |                   | <b>1.33</b>          | <b>5.8</b> |

**Uncontrolled Fugitive Emissions from Tank Farm Equipment in Ethanol Service**

| Equipment Type       | Number of sources | VOC Emissions lbs/hr | TPY         |
|----------------------|-------------------|----------------------|-------------|
| Pump Seals           | 5                 | 0.22                 | 1.0         |
| Valves lt. Liq.      | 133               | 1.18                 | 5.2         |
| Valves gas           | 6                 | 0.07                 | 0.3         |
| Compressors          | 0                 | 0.00                 | 0.0         |
| Relief Valves        | 2                 | 0.50                 | 2.2         |
| Sampling Connections | 4                 | 0.15                 | 0.6         |
| Open Ended Lines     | 0                 | 0.00                 | 0.0         |
| Connectors           | 640               | 2.58                 | 11.3        |
| <b>Total</b>         |                   | <b>4.70</b>          | <b>20.6</b> |

**Uncontrolled Fugitive Emissions from Corrosion Inhibitor Service**

| Equipment Type       | Number of sources | VOC Emissions lbs/hr | TPY        |
|----------------------|-------------------|----------------------|------------|
| Pump Seals           | 1                 | 0.05                 | 0.2        |
| Valves lt. Liq.      | 12                | 0.11                 | 0.5        |
| Valves gas           | 0                 | 0.00                 | 0.0        |
| Compressors          | 0                 | 0.00                 | 0.0        |
| Relief Valves        | 0                 | 0.00                 | 0.0        |
| Sampling Connections | 1                 | 0.04                 | 0.2        |
| Open Ended Lines     | 0                 | 0.00                 | 0.0        |
| Connectors           | 84                | 0.34                 | 1.5        |
| <b>Total</b>         |                   | <b>0.53</b>          | <b>2.3</b> |

Since all of these sources are subject to the NSPS subpart VV; credit for emission reduction attributable to control equipments and a Leak Detection and Repair (LDAR) Program is warranted (see EPA-453/R-95-017, chapter 5).

**Control Effectiveness for a LDAR Program**

| Equipment Type             | Control effectiveness (%) for at least Monthly monitoring |
|----------------------------|-----------------------------------------------------------|
| Pump Seals                 | 69                                                        |
| Valves lt. Liq.            | 88                                                        |
| Valves gas                 | 92                                                        |
| Connectors <sup>2</sup>    | 93                                                        |
| Relief Valves <sup>2</sup> | 92                                                        |

**Controlled Fugitive Emissions from Tank Farm Equipment in Denaturant Service**

| Equipment Type       | VOC Emissions lbs/hr | TPY        |
|----------------------|----------------------|------------|
| Pump Seals           | 0.03                 | 0.1        |
| Valves lt. Liq.      | 0.05                 | 0.2        |
| Valves gas           | 0.00                 | 0.0        |
| Compressors          | 0.00                 | 0.0        |
| Relief Valves        | 0.00                 | 0.0        |
| Sampling Connections | 0.04                 | 0.2        |
| Open Ended Lines     | 0.00                 | 0.0        |
| Connectors           | 0.06                 | 0.2        |
| <b>Total VOCs</b>    | <b>0.2</b>           | <b>0.7</b> |

**Controlled Fugitive Emissions from Tank Farm Equipment in Ethanol Service**

| Equipment Type       | VOC Emissions lbs/hr | TPY        |
|----------------------|----------------------|------------|
| Pump Seals           | 0.07                 | 0.3        |
| Valves lt. Liq.      | 0.14                 | 0.6        |
| Valves gas           | 0.01                 | 0.0        |
| Compressors          | 0.00                 | 0.0        |
| Relief Valves        | 0.04                 | 0.2        |
| Sampling Connections | 0.15                 | 0.6        |
| Open Ended Lines     | 0.00                 | 0.0        |
| Connectors           | 0.18                 | 0.8        |
| <b>Total VOCs</b>    | <b>0.6</b>           | <b>2.5</b> |

**Controlled Fugitive Emissions from Corrosion Inhibitor Service**

| Equipment Type       | VOC Emissions lbs/hr | TPY        |
|----------------------|----------------------|------------|
| Pump Seals           | 0.01                 | 0.1        |
| Valves lt. Liq.      | 0.01                 | 0.1        |
| Valves gas           | 0.00                 | 0.0        |
| Compressors          | 0.00                 | 0.0        |
| Relief Valves        | 0.00                 | 0.0        |
| Sampling Connections | 0.04                 | 0.2        |
| Open Ended Lines     | 0.00                 | 0.0        |
| Connectors           | 0.02                 | 0.1        |
| <b>Total VOCs</b>    | <b>0.1</b>           | <b>0.4</b> |

**Total Fugitive Emissions from Tank Farm Equipmen**

|                   | Controlled Emissions Lb/hr | Controlled Emissions (TPY) | Uncontrolled Emissions (TPY) |
|-------------------|----------------------------|----------------------------|------------------------------|
| <b>Total VOCs</b> | <b>0.84</b>                | <b>3.66</b>                | <b>28.70</b>                 |

**POET Biorefining - Preston**  
**Preston, MN**  
**FUGI 7 & FUGI 13 Emission Calculations**

<sup>1</sup>Control effectiveness is based upon a 500 ppm leak detection from Chapter 4. Preferred and alternative methods for estimating fugitive emissions from equipment leaks, November 1996.

<sup>2</sup>Table 5-2, Protocol for Equipment Leak Emission Estimates, USEPA EPA-453/R-95-017, November 1995.

<sup>3</sup>Table 5-2, Protocol for Equipment Leak Emission Estimates, USEPA EPA-453/R-95-017, November 1995, Valves-Gas under HON Reg Neg.

- 88% control for all valves in light liquid service.
- 92% control for all valves in gas/vapor service.

**HAP Emission Calculations (Denaturant Service)**

| HAP Name     | Vapor Fraction | Controlled Emissions (TPY) | Uncontrolled Emissions (TPY) |
|--------------|----------------|----------------------------|------------------------------|
| Benzene      | 6.19E-03       | 4.55E-03                   | 3.60E-02                     |
| Ethylbenzene | 0.00E+00       | 0.00E+00                   | 0.00E+00                     |
| Hexane       | 4.97E-02       | 3.65E-02                   | 2.89E-01                     |
| Toluene      | 1.54E-03       | 1.13E-03                   | 8.96E-03                     |
| Xylenes      | 0.00E+00       | 0.00E+00                   | 0.00E+00                     |

<sup>4</sup>Vapor Fraction based on Enterprise Products SDS revised 07/08/2013 for natural gasoline.

**HAP Emission Calculations (Ethanol Service)**

| HAP Name     | Vapor Fraction | Controlled Emissions (TPY) | Uncontrolled Emissions (TPY) |
|--------------|----------------|----------------------------|------------------------------|
| Benzene      | 3.60E-03       | 9.16E-03                   | 7.40E-02                     |
| Ethylbenzene | 1.00E-04       | 2.54E-04                   | 2.06E-03                     |
| Hexane       | 1.80E-02       | 4.58E-02                   | 3.70E-01                     |
| Toluene      | 6.00E-04       | 1.53E-03                   | 1.23E-02                     |
| Xylenes      | 3.00E-04       | 7.63E-04                   | 6.17E-03                     |
| Acetaldehyde | 2.00E-04       | 5.09E-04                   | 4.11E-03                     |
| Methanol     | 2.11E-05       | 5.36E-05                   | 4.33E-04                     |
| Formaldehyde | 2.81E-05       | 7.14E-05                   | 5.77E-04                     |
| Acrolein     | 1.40E-05       | 3.57E-05                   | 2.89E-04                     |

**Part 3: Total Emissions from Equipment Leaks in VOC service**

**Total VOC Emissions**

|                   | Controlled Emissions Lb/hr | Controlled Emissions (TPY) | Uncontrolled Emissions (TPY) |
|-------------------|----------------------------|----------------------------|------------------------------|
| <b>Total VOCs</b> | <b>3.38</b>                | <b>14.82</b>               | <b>46.86</b>                 |

**Total HAP Emissions**

| HAP Name          | Controlled Emissions Lb/hr | Controlled Emissions (TPY) | Uncontrolled Emissions (TPY) |
|-------------------|----------------------------|----------------------------|------------------------------|
| Benzene           | 1.56E-06                   | 1.37E-02                   | 1.10E-01                     |
| Ethylbenzene      | 2.90E-08                   | 2.54E-04                   | 2.06E-03                     |
| Hexane            | 9.40E-06                   | 8.23E-02                   | 6.59E-01                     |
| Toluene           | 3.03E-07                   | 2.66E-03                   | 2.13E-02                     |
| Xylenes           | 8.71E-08                   | 7.63E-04                   | 6.17E-03                     |
| Acetaldehyde      | 5.81E-08                   | 5.09E-04                   | 4.11E-03                     |
| Methanol          | 6.12E-09                   | 5.36E-05                   | 4.33E-04                     |
| Formaldehyde      | 8.15E-09                   | 7.14E-05                   | 5.77E-04                     |
| Acrolein          | 4.08E-09                   | 3.57E-05                   | 2.89E-04                     |
| <b>Total HAPs</b> | <b>1.15E-05</b>            | <b>1.00E-01</b>            | <b>8.04E-01</b>              |

**POET Biorefining - Preston**

**Preston, MN**

**FUGI 17**

**FUGI17 Equipment Leaks from Tops of Fermenters and Beerwell (Not subject to Vva)**

| VOC PTE from Leaks from tops of Fermentation Tanks and Beerwell                                                                                                                                                                                                                                                                                                                                |                                              |                              |           |                 |                                                  |                            |                      |                                  |                |                   |                  |             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------------|-----------|-----------------|--------------------------------------------------|----------------------------|----------------------|----------------------------------|----------------|-------------------|------------------|-------------|
| Emission Unit No.                                                                                                                                                                                                                                                                                                                                                                              | Description                                  | Equipment                    | Service   | Component Count | Emission Factor <sup>1,2</sup><br>(kg/hr/source) | Uncontrolled Emission Rate | Subpart VV Effective | Controlled Emission Rate (lb/hr) | TOC Weight (%) | Potential to Emit |                  |             |
|                                                                                                                                                                                                                                                                                                                                                                                                |                                              |                              |           |                 |                                                  |                            |                      |                                  |                | lb/hr             | Unrestricted tpy | Limited tpy |
| All Ferms and Beerwell                                                                                                                                                                                                                                                                                                                                                                         | Components on top of Fermenters and Beerwell | Valves                       | Gas/Vapor | 75              | 0.00597                                          | 0.987                      | 87%                  | 0.128                            | 19.3%          | 0.025             | 0.835            | 0.109       |
|                                                                                                                                                                                                                                                                                                                                                                                                |                                              | Connector/Flanges            | Gas/Vapor | 255             | 0.00183                                          | 1.029                      | 33%                  | 0.689                            | 19.3%          | 0.133             | 0.871            | 0.583       |
|                                                                                                                                                                                                                                                                                                                                                                                                |                                              | Agitator                     | Gas/Vapor | 15              | 0.0199                                           | 0.658                      | 69%                  | 0.204                            | 19.3%          | 0.039             | 0.557            | 0.173       |
|                                                                                                                                                                                                                                                                                                                                                                                                |                                              | Hatch (manway <sup>2</sup> ) | Gas/Vapor | 30              | 0.228                                            | 15.082                     | 0%                   | 15.082                           | 19.3%          | 2.914             | 12.763           | 12.763      |
|                                                                                                                                                                                                                                                                                                                                                                                                |                                              | PRV                          | Gas/Vapor | 49              | 0.104                                            | 11.237                     | 44%                  | 6.293                            | 19.3%          | 1.216             | 9.509            | 5.325       |
| Total PTE                                                                                                                                                                                                                                                                                                                                                                                      |                                              |                              |           |                 |                                                  |                            |                      |                                  |                | 4.327             | 24.535           | 18.952      |
| 1 - As per Protocol for Equipment Leak Emission Rates, Table 2-1, the light liquid pump seal average emission factor can be used to estimate the leak rate from agitator seals.                                                                                                                                                                                                                |                                              |                              |           |                 |                                                  |                            |                      |                                  |                |                   |                  |             |
| 2 - Hatch is listed in the oil and gas under the other category along with things such as compressors and pressure relief valves. There is no average emission factor for hatches for SOCM facilities. The compressor seals average emission factor was used from table 2.1 as it is the highest average emission factor for the components listed in the 'other' category along with hatches. |                                              |                              |           |                 |                                                  |                            |                      |                                  |                |                   |                  |             |
| 3 - Control Efficiencies for valves and agitators from Protocol for Equipment Leak Emission Estimates, Table 5.2. Agitator control efficiency assumed to be equivalent to pumps - light liquid control efficiency.                                                                                                                                                                             |                                              |                              |           |                 |                                                  |                            |                      |                                  |                |                   |                  |             |
| 4 - Control efficiencies for connectors and PRVs from Preferred and Alternative Methods for Estimating Fugitive Emissions from Equipment Leaks, Table 4.2-3.                                                                                                                                                                                                                                   |                                              |                              |           |                 |                                                  |                            |                      |                                  |                |                   |                  |             |

| HAP PTE from Leaks from tops of Fermentation Tanks and Beerwell |                                              |                         |                                  |                   |                               |                          |
|-----------------------------------------------------------------|----------------------------------------------|-------------------------|----------------------------------|-------------------|-------------------------------|--------------------------|
| Emission Unit No.                                               | Description                                  | Hazardous Air Pollutant | HAP Mass Fraction <sup>1,2</sup> | Potential to Emit |                               |                          |
|                                                                 |                                              |                         |                                  | lb/hr             | Unrestricted <sup>3</sup> tpy | Limited <sup>3</sup> tpy |
| All ferms and Beerwell                                          | Components on top of Fermenters and Beerwell | Acetaldehyde            | 3.52E-03                         | 1.52E-02          | 8.63E-02                      | 6.66E-02                 |
|                                                                 |                                              | Acrolein                | 1.23E-03                         | 5.30E-03          | 3.01E-02                      | 2.32E-02                 |
|                                                                 |                                              | Formaldehyde            | 3.24E-05                         | 1.40E-04          | 7.95E-04                      | 6.14E-04                 |
|                                                                 |                                              | Methanol                | 2.21E-04                         | 9.58E-04          | 5.43E-03                      | 4.20E-03                 |
|                                                                 |                                              |                         | Total HAPs                       | 2.16E-02          | 1.23E-01                      | 9.47E-02                 |

| Scrubber Inlet Performance testing conducted at POET GLE on 3/3/2016 |        |        |        |        |                   |
|----------------------------------------------------------------------|--------|--------|--------|--------|-------------------|
|                                                                      | Run 1  | Run 2  | Run 3  | AVG    | HAP Mass Fraction |
| <b>VOC</b>                                                           | 612.76 | 613.35 | 625.53 | 617.21 | 1.00E+00          |
| <b>Acetaldehyde</b>                                                  | 2.22   | 2.15   | 2.14   | 2.17   | 3.52E-03          |
| <b>Acrolein</b>                                                      | 0.7    | 0.77   | 0.8    | 0.76   | 1.23E-03          |
| <b>Formaldehyde</b>                                                  | 0.02   | 0.02   | 0.02   | 0.02   | 3.24E-05          |
| <b>Methanol</b>                                                      | 0.13   | 0.14   | 0.14   | 0.14   | 2.21E-04          |

1 - HAP Mass Fractions for Acetaldehyde, Acrolein, Formaldehyde, and Methanol are based on performance testing conducted on March 3, 2016 on CO2 Fermentation Scrubber inlet plus an engineering factor. Undetected HAPs were included at the detection level.

**POET Biorefining - Preston**  
**Preston, MN**  
**FUGI 1**

**Paved Road Traffic Emission Calculations**

All trucks are assumed to have an empty weight of 15 tons and a full weight of 40 tons. Actual ethanol and denaturant trucks have a capacity of 8,000 gallons and DDGS trucks have a capacity of 25 tons.

All shipping and receiving Trucks travel entirely on paved roads.

**Paved roads** {AP-42 Chapter 13.2.1 (1/11)}

Equation (2): 
$$E = k \times (sL)^{0.91} \times (W)^{1.02} \times \left(1 - \frac{P}{4 \times 365}\right)$$

| Description                              | Variable    | Value   | Units  |
|------------------------------------------|-------------|---------|--------|
| Value used for PM                        | k           | 0.011   | lb/VMT |
| Value used for PM10                      | k           | 0.0022  | lb/VMT |
| Value used for PM2.5                     | k           | 0.00054 | lb/VMT |
| Road Silt Loading                        | sL - summer | 1.3     | g/m2   |
| Maximum Instantaneous Control Efficiency | No Control  | 0%      |        |
| Road Cleaning Frequency                  | N/A         | N/A     | mph    |
| Mean vehicle weight (tons) <sup>1</sup>  | W           | 27.50   | tons   |
| Precipitation Frequency                  | P           | 100.00  |        |
| Number of days in averaging period       | N           | 365     |        |
| Constant                                 |             | 0.91    |        |
| Constant                                 |             | 1.02    |        |

|                                 |      |
|---------------------------------|------|
| DDGS Haul Out by Truck          | 100% |
| Ethanol Haul Out by Truck       | 100% |
| Denaturant Delivery by Truck    | 100% |
| Grain Delivery by Truck         | 100% |
| Brewery Waste Delivery by Truck | 100% |
| CO2 Haul Out                    | 100% |
| Corn Oil Haul Out               | 100% |
| Wetcake Haul Out                | 100% |
| Syrup Haul Out                  | 100% |

| Vehicle Type             | Average Weight of Truck (tons) | Quantity Transported per Truck | Maximum Number of Trucks (Trucks/yr) | Limited Number of Trucks (Trucks/yr) | Maximum Number of Trucks (Trucks/hr) | Maximum Daily Number of Trucks <sup>2</sup> (Trucks/day) | Hours of operation per day | Miles Traveled per Truck | Limited VMT/yr | Limited VMT/hr |
|--------------------------|--------------------------------|--------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|----------------------------------------------------------|----------------------------|--------------------------|----------------|----------------|
| DDGS Haul Out            | 27.5                           | 25 ton                         | 8,877                                | 8,877                                | 3                                    | 42                                                       | 14                         | 0.20                     | 1,775          | 1              |
| Ethanol Haul Out         | 27.5                           | 8,000 gal                      | 10,707                               | 10,707                               | 5                                    | 120                                                      | 24                         | 0.40                     | 4,283          | 2              |
| Denaturant Delivery      | 27.5                           | 8,000 gal                      | 500                                  | 500                                  | 1                                    | 3                                                        | 24                         | 0.50                     | 250            | 1              |
| Grain Delivery West Bins | 27.5                           | 25 tons                        | 32,584                               | 32,584                               | 41                                   | 140                                                      | 14                         | 0.80                     | 26,067         | 33             |
| Grain Delivery East Bins | 27.5                           | 25 tons                        | 32,584                               | 32,584                               | 41                                   | 235                                                      | 14                         | 0.50                     | 16,292         | 21             |
| Brewery Waste Delivery   | 27.5                           | 8,000 gal                      | 2,600                                | 2,600                                | 2                                    | 10                                                       | 24                         | 0.30                     | 780            | 1              |
| CO2 Trucks               | 27.5                           | 8,000 gal                      | 5,200                                | 5,200                                | 4                                    | 96                                                       | 24                         | 0.40                     | 2,080          | 2              |
| Corn Oil Haul Out        | 27.5                           | 8000 gallons                   | 310                                  | 310                                  | 2                                    | 5                                                        | 24                         | 0.30                     | 93             | 1              |
| Wetcake Haul Out         | 27.5                           | 25 tons                        | 1,460                                | 1,460                                | 3                                    | 20                                                       | 24                         | 0.40                     | 584            | 1              |
| Syrup Haul Out           | 27.5                           | 8000 gallons                   | 240                                  | 240                                  | 2                                    | 5                                                        | 24                         | 0.30                     | 72             | 1              |
| <b>Total</b>             | <b>27.50</b>                   |                                |                                      |                                      | <b>104</b>                           | <b>676</b>                                               |                            |                          | <b>52,276</b>  | <b>61</b>      |

| PM10 lb/hr for Model |
|----------------------|
| 0.0492               |
| 0.1642               |
| 0.0051               |
| 0.6566               |
| 0.6889               |
| 0.0103               |
| 0.1313               |
| 0.0051               |
| 0.0274               |
| 0.0051               |

| Paved Haul Road Emissions | E <sub>(lb/VMT)</sub> | Uncontrolled    |                |       | Controlled      |                |       |
|---------------------------|-----------------------|-----------------|----------------|-------|-----------------|----------------|-------|
|                           |                       | Maximum lb/hour | Maximum lb/day | (TPY) | Maximum lb/hour | Maximum lb/day | (TPY) |
| Emissions PM              | 0.410                 | 25.03           | 91.23          |       | 25.03           | 91.23          |       |
| Emissions PM Annual       | 0.382                 |                 |                | 9.99  |                 |                | 9.99  |
| Emissions PM10            | 0.082                 | 5.01            | 18.12          |       | 5.01            | 18.12          |       |
| Emissions PM10 Annual     | 0.076                 |                 |                | 2.00  |                 |                | 2.00  |
| Emissions PM2.5           | 0.020                 | 1.23            | 4.45           |       | 1.23            | 4.45           |       |
| Emissions PM2.5 Annual    | 0.019                 |                 |                | 0.49  |                 |                | 0.49  |

**Notes:**

<sup>1</sup> Mean vehicle weight (W) accounts for the vehicles weight (load or no load depending on the vehicle). Assumed all loaded trucks are 40 tons, which is conservative. Average weight of trucks assumes loaded and empty same amount of miles.

<sup>2</sup> Denaturant Delivery and Ethanol Haul Out can not occur simultaneously.

<sup>4</sup> Syrup loadout is not included in calculations, as the tonnage of DDGS produced assumes the syrup weight is included in the DDGS.

**POET Biorefining - Preston**  
**Preston, MN**  
**FUGI 1**

**Paved Road Traffic Emission Calculations**

All trucks are assumed to have an empty weight of 15 tons and a full weight of 40 tons. Actual ethanol and denaturant trucks have a capacity of 8,000 gallons and DDGS trucks have a capacity of 25 tons.

All shipping and receiving Trucks travel entirely on paved roads.

**Paved roads** {AP-42 Chapter 13.2.1 (1/11)}

Equation (2): 
$$E = k \times (sL)^{0.91} \times (W)^{1.02} \times \left(1 - \frac{P}{4 \times 365}\right)$$

| Description                              | Variable    | Value   | Units  |
|------------------------------------------|-------------|---------|--------|
| Value used for PM                        | k           | 0.011   | lb/VMT |
| Value used for PM10                      | k           | 0.0022  | lb/VMT |
| Value used for PM2.5                     | k           | 0.00054 | lb/VMT |
| Road Silt Loading                        | sL - summer | 1.3     | g/m2   |
| Maximum Instantaneous Control Efficiency | No Control  | 0%      |        |
| Road Cleaning Frequency                  | N/A         | N/A     | mph    |
| Mean vehicle weight (tons) <sup>1</sup>  | W           | 27.50   | tons   |
| Precipitation Frequency                  | P           | 100.00  |        |
| Number of days in averaging period       | N           | 365     |        |
| Constant                                 |             | 0.91    |        |
| Constant                                 |             | 1.02    |        |

|                                 |      |
|---------------------------------|------|
| DDGS Haul Out by Truck          | 100% |
| Ethanol Haul Out by Truck       | 100% |
| Denaturant Delivery by Truck    | 100% |
| Grain Delivery by Truck         | 100% |
| Brewery Waste Delivery by Truck | 100% |
| CO2 Haul Out                    | 100% |
| Corn Oil Haul Out               | 100% |
| Wetcake Haul Out                | 100% |
| Syrup Haul Out                  | 100% |

| Vehicle Type             | Average Weight of Truck (tons) | Quantity Transported per Truck | Maximum Number of Trucks (Trucks/yr) | Limited Number of Trucks (Trucks/yr) | Maximum Number of Trucks (Trucks/hr) | Maximum Daily Number of Trucks <sup>2</sup> (Trucks/day) | Hours of operation per day | Miles Traveled per Truck | Limited VMT/yr | Limited VMT/hr |
|--------------------------|--------------------------------|--------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|----------------------------------------------------------|----------------------------|--------------------------|----------------|----------------|
| DDGS Haul Out            | 27.5                           | 25 ton                         | 8,877                                | 8,877                                | 3                                    | 42                                                       | 14                         | 0.20                     | 1,775          | 1              |
| Ethanol Haul Out         | 27.5                           | 8,000 gal                      | 10,707                               | 10,707                               | 5                                    | 120                                                      | 24                         | 0.40                     | 4,283          | 2              |
| Denaturant Delivery      | 27.5                           | 8,000 gal                      | 500                                  | 500                                  | 1                                    | 3                                                        | 24                         | 0.50                     | 250            | 1              |
| Grain Delivery West Bins | 27.5                           | 25 tons                        | 32,584                               | 32,584                               | 41                                   | 313                                                      | 14                         | 0.80                     | 26,067         | 33             |
| Grain Delivery East Bins | 27.5                           | 25 tons                        | 32,584                               | 32,584                               | 41                                   | 62                                                       | 14                         | 0.50                     | 16,292         | 21             |
| Brewery Waste Delivery   | 27.5                           | 8,000 gal                      | 2,600                                | 2,600                                | 2                                    | 10                                                       | 24                         | 0.30                     | 780            | 1              |
| CO2 Trucks               | 27.5                           | 8,000 gal                      | 5,200                                | 5,200                                | 4                                    | 96                                                       | 24                         | 0.40                     | 2,080          | 2              |
| Corn Oil Haul Out        | 27.5                           | 8000 gallons                   | 310                                  | 310                                  | 2                                    | 5                                                        | 24                         | 0.30                     | 93             | 1              |
| Wetcake Haul Out         | 27.5                           | 25 tons                        | 1,460                                | 1,460                                | 3                                    | 20                                                       | 24                         | 0.40                     | 584            | 1              |
| Syrup Haul Out           | 27.5                           | 8000 gallons                   | 240                                  | 240                                  | 2                                    | 5                                                        | 24                         | 0.30                     | 72             | 1              |
| <b>Total</b>             | <b>27.50</b>                   |                                |                                      |                                      | 104                                  | 676                                                      |                            |                          | <b>52,276</b>  | <b>61</b>      |

| PM10 lb/hr for Model |
|----------------------|
| 0.0492               |
| 0.1642               |
| 0.0051               |
| 1.4680               |
| 0.1817               |
| 0.0103               |
| 0.1313               |
| 0.0051               |
| 0.0274               |
| 0.0051               |

| Paved Haul Road Emissions | E <sub>(lb/VMT)</sub> | Uncontrolled    |                |       | Controlled      |                |       |
|---------------------------|-----------------------|-----------------|----------------|-------|-----------------|----------------|-------|
|                           |                       | Maximum lb/hour | Maximum lb/day | (TPY) | Maximum lb/hour | Maximum lb/day | (TPY) |
| Emissions PM              | 0.410                 | 25.03           | 148.03         |       | 25.03           | 148.03         |       |
| Emissions PM Annual       | 0.382                 |                 |                | 9.99  |                 |                | 9.99  |
| Emissions PM10            | 0.082                 | 5.01            | 29.48          |       | 5.01            | 29.48          |       |
| Emissions PM10 Annual     | 0.076                 |                 |                | 2.00  |                 |                | 2.00  |
| Emissions PM2.5           | 0.020                 | 1.23            | 7.24           |       | 1.23            | 7.24           |       |
| Emissions PM2.5 Annual    | 0.019                 |                 |                | 0.49  |                 |                | 0.49  |

**Notes:**

<sup>1</sup> Mean vehicle weight (W) accounts for the vehicles weight (load or no load depending on the vehicle). Assumed all loaded trucks are 40 tons, which is conservative. Average weight of trucks assumes loaded and empty same amount of miles.

<sup>2</sup> Denaturant Delivery and Ethanol Haul Out can not occur simultaneously.

<sup>4</sup> Syrup loadout is not included in calculations, as the tonnage of DDGS produced assumes the syrup weight is included in the DDGS.

**POET Biorefining - Preston**  
**Preston, MN**  
**FUGI 15, FUGI 16**  
**Cooling Tower Fugitives**

Particulate emissions can be estimated by analyzing the mass of condensed water that is released times the total mass of dissolved solids present in the water. The estimate is based on the assumption that all of the dissolved solids that are present in the water becomes airborne particulate matter upon evaporation of the release condensed water droplets. The released water droplets are referred to as the "drift loss" of the tower. The drift loss of the tower is usually referenced as a percent of the total water circulation rate of the tower. This methodology predicts total PM. PM10 and PM2.5 is calculated as a mass percentage of total PM using methods adopted by the New Mexico Environment Department, Air Quality Bureau.

**Conversions:**

1 gallon = 3.78541 Liters  
1 hour = 60 minutes  
1 pound = 453600 mg  
1 ton = 2000 pounds  
1 year = 8760 hours  
1 day = 24 hours

|                                   |                                                       | <b>Cooling Tower</b> |
|-----------------------------------|-------------------------------------------------------|----------------------|
| <b>Equipment Specifications</b>   | Water Flow, GPM:                                      | 24,000               |
|                                   | Drift Eliminator Mist (% Loss) <sup>1</sup> :         | 0.005                |
| <b>PM (AP-42)</b>                 | TDS Emission Factor, ppmw <sup>2</sup> :              | 1,500                |
|                                   | Potential emissions, lb/hr:                           | 0.90                 |
|                                   | Potential emissions, tons per year:                   | 3.95                 |
| <b>PM<sub>10</sub> Emissions</b>  | Drift Droplet Diameter (d <sub>d</sub> ) <sup>3</sup> | 118.563              |
|                                   | Solids Mass Percent, % <sup>4</sup> :                 | 75.44%               |
|                                   | Potential emissions, lb/hr:                           | 0.68                 |
|                                   | Potential emissions, tons per year:                   | 2.98                 |
| <b>PM<sub>2.5</sub> Emissions</b> | Drift Droplet Diameter (d <sub>d</sub> ) <sup>3</sup> | 29.641               |
|                                   | Solids Mass Percent, % <sup>4</sup> :                 | 0.22%                |
|                                   | Potential emissions, lb/hr:                           | 0.002                |
|                                   | Potential emissions, tons per year:                   | 0.009                |

<sup>1</sup> Drift loss as provided by the manufacturer.

<sup>2</sup> Maximum concentration based on routine testing at the facility.

<sup>3</sup> Drift droplet size calculated using Step 5 formula from Cooling Towers (9/9/2013), Technical Memorandum by Daren Zigich, New Mexico Environment Department, Air Quality Bureau

<sup>4</sup> Solids Mass Percent interpolated to droplet diameter utilizing size distribution tables in Cooling Towers (9/9/2013), Technical Memorandum by Daren Zigich, New Mexico Environment Department, Air Quality Bureau



**POET Biorefining - Preston**  
**Preston, MN**  
**STRU 42**  
**Emergency Diesel Generator Calculations**

The facility plans to install a 2250 kw electric generator. The primary purpose of the generator is to provide electricity in the event of an emergency condition at the plant.

In the event of an emergency, the generator is of sufficient size to operate emergency shutdown systems, lighting systems, cooling tower water pumps and limited ancillary equipment. The DDGS dryers, RTO, centrifuges, boilers and other process systems are not powered by the emergency generator. Therefore, emissions from the generator during emergency conditions will be off set by the shutdown of the remainder of the emission units at the site. Thus the annual PTE of the facility is not impacted by the operation of the generator in emergency conditions.

The potential emissions for the generator is calculated by multiplying an emission factor by the rated capacity of the generator. The emission factors are:

|       |                  |                  |                                       |
|-------|------------------|------------------|---------------------------------------|
| TSP   | 0.75000 g/HP-hr  | 0.00165 lb/HP-hr | Mfg. Specification                    |
| PM10  | 0.75000 g/HP-hr  | 0.00165 lb/HP-hr | Mfg. Specification                    |
| PM2.5 | 0.75000 g/HP-hr  | 0.00165 lb/HP-hr | Engineering Assumption                |
| NOx   | 9.16000 g/HP-hr  | 0.02019 lb/HP-hr | Mfg. Specification                    |
| SOx   | 0.00400 lb/HP-hr |                  | AP-42 Section Section 3.4 Table 3.4-1 |
| VOC   | 0.16000 g/HP-hr  | 0.00035 lb/HP-hr | Mfg. Specification                    |
| CO    | 0.20000 g/HP-hr  | 0.00044 lb/HP-hr | Mfg. Specification                    |
| CO2   | 73.9600 kg/MMBtu | 163.05 lb/MMBtu  | 40 CFR 98 Table C-1                   |
| CH4   | 0.0030 kg/MMBtu  | 0.007 lb/MMBtu   | 40 CFR 98 Table C-2                   |
| N2O   | 0.0006 kg/MMBtu  | 0.0013 lb/MMBtu  | 40 CFR 98 Table C-2                   |

The sulfur content of the fuel used for the generator will be less than 0.5 wt%.

|                |                            |
|----------------|----------------------------|
| Given:         |                            |
| Generator Size | 3,017 HP                   |
| Generator Size | 7.68 MMBtu/hr <sup>1</sup> |
| Maximum Usage  | 500 hours/year             |

| Pollutant | Potential to Emit Emissions<br>(Uncontrolled) |          | Potential to Emit Emissions<br>(Controlled) |          |
|-----------|-----------------------------------------------|----------|---------------------------------------------|----------|
|           | (lb/hr)                                       | (ton/yr) | (lb/hr)                                     | (ton/yr) |
| TSP       | 4.99                                          | 21.85    | 4.99                                        | 1.25     |
| PM10      | 4.99                                          | 21.85    | 4.99                                        | 1.25     |
| PM2.5     | 4.99                                          | 21.85    | 4.99                                        | 1.25     |
| Nox       | 60.93                                         | 266.87   | 60.93                                       | 15.23    |
| SOX       | 12.07                                         | 52.86    | 12.07                                       | 3.02     |
| VOC       | 1.06                                          | 4.66     | 1.06                                        | 0.27     |
| CO        | 1.33                                          | 5.83     | 1.33                                        | 0.33     |
| CO2       | 1252.89                                       | 5487.66  | 1252.89                                     | 313.22   |
| CH4       | 0.05                                          | 0.22     | 0.05                                        | 0.01     |
| N2O       | 0.01                                          | 0.04     | 0.01                                        | 0.00     |
| CO2-e     | 1257.19                                       | 5506.49  | 1257.19                                     | 314.30   |

**HAP Emission Calculations**

| HAP Pollutant | Emission<br>Factor <sup>2</sup> | Potential to Emit Emissions<br>(Uncontrolled) |          | Potential to Emit Emissions<br>(Controlled) |          |
|---------------|---------------------------------|-----------------------------------------------|----------|---------------------------------------------|----------|
|               | (lb/MMBtu)                      | (lb/hr)                                       | (ton/yr) | (lb/hr)                                     | (ton/yr) |
| Acetaldehyde  | 2.52E-05                        | 1.94E-04                                      | 8.48E-04 | 1.94E-04                                    | 4.84E-05 |
| Acrolein      | 7.88E-06                        | 6.06E-05                                      | 2.65E-04 | 6.06E-05                                    | 1.51E-05 |
| Benzene       | 7.76E-04                        | 5.96E-03                                      | 2.61E-02 | 5.96E-03                                    | 1.49E-03 |
| Formaldehyde  | 7.89E-05                        | 6.06E-04                                      | 2.66E-03 | 6.06E-04                                    | 1.52E-04 |
| Naphthalene   | 1.30E-04                        | 9.99E-04                                      | 4.38E-03 | 9.99E-04                                    | 2.50E-04 |
| Toluene       | 2.81E-04                        | 2.16E-03                                      | 9.46E-03 | 2.16E-03                                    | 5.40E-04 |
| Xylenes       | 1.93E-04                        | 1.48E-03                                      | 6.50E-03 | 1.48E-03                                    | 3.71E-04 |
| Total HAPs    |                                 | 1.15E-02                                      | 5.02E-02 | 1.15E-02                                    | 2.87E-03 |

1. Assume 1 HP = 2546.699 Btu/hr

2. Emission factors are from AP-42 Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines.

**POET Biorefining - Preston  
Preston, MN  
EQUI219  
Make-Up Air Unit**

The facility has one existing natural gas fired makeup air unit (MAU). The MAU is direct vent and does not have a stack. The MAU is not controlled.

EQUI219 Make up Air Unit      2.464 MMBtu/hr    Burner Specification  
1020 MMBTU = 1 MMSCF

**Operation:**

|                           |            |
|---------------------------|------------|
| Capacity=                 | 100%       |
| 1 year =                  | 8760 hours |
| 1 ton =                   | 2000 lbs   |
| Hours operated per year = | 8760 hours |

### Combustion Emission Factors

|                                |          |          |                                      |
|--------------------------------|----------|----------|--------------------------------------|
| TSP                            | 0.0075   | lb/MMBtu | AP-42 Section 1.4                    |
| PM10                           | 0.0075   | lb/MMBtu | AP-42 Section 1.4                    |
| PM2.5                          | 0.0075   | lb/MMBtu | AP-42 Section 1.4                    |
| NOx                            | 0.0980   | lb/MMBtu | AP-42 Section 1.4                    |
| SOx                            | 0.0006   | lb/MMBtu | AP-42 Section 1.4                    |
| VOC                            | 0.0054   | lb/MMBtu | AP-42 Section 1.4                    |
| CO                             | 0.0824   | lb/MMBtu | AP-42 Section 1.4                    |
| CO2                            | 116.8900 | lb/MMBtu | USEPA GHG Emission Factors, 11/19/15 |
| CH4                            | 0.0022   | lb/MMBtu | USEPA GHG Emission Factors, 11/19/15 |
| N2O                            | 0.0002   | lb/MMBtu | USEPA GHG Emission Factors, 11/19/15 |
| CO2e                           | 117.0044 | lb/MMBtu | USEPA GHG Emission Factors, 11/19/15 |
| 2-Methylnaphthalene            | 2.40E-05 | lb/MMSCF | AP-42 Section 1.4                    |
| 3-Methylchloranthrene          | 1.80E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| 7,12-Dimethylbenz(a)anthracene | 1.60E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Acenaphthene                   | 1.80E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Acenaphthylene                 | 1.80E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Anthracene                     | 2.40E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Benz(a)anthracene              | 1.80E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Benzene                        | 0.0021   | lb/MMSCF | AP-42 Section 1.4                    |
| Benzo(a)pyrene                 | 1.20E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Benzo(b)fluoranthene           | 1.80E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Benzo(g,h,i)perylene           | 1.20E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Benzo(k)fluoranthene           | 1.80E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Chrysene                       | 1.80E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Dibenzo(a,h)anthracene         | 1.20E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Dichlorobenzene                | 1.20E-03 | lb/MMSCF | AP-42 Section 1.4                    |
| Formaldehyde                   | 7.50E-02 | lb/MMSCF | AP-42 Section 1.4                    |
| Fluoranthene                   | 3.00E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Fluorene                       | 2.80E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Hexane                         | 1.8      | lb/MMSCF | AP-42 Section 1.4                    |
| Indeno(1,2,3-cd)pyrene         | 1.80E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Naphthalene                    | 0.00061  | lb/MMSCF | AP-42 Section 1.4                    |
| Phenanthrene                   | 1.70E-05 | lb/MMSCF | AP-42 Section 1.4                    |
| Pyrene                         | 5.00E-06 | lb/MMSCF | AP-42 Section 1.4                    |
| Toluene                        | 0.0034   | lb/MMSCF | AP-42 Section 1.4                    |
| Arsenic                        | 0.0002   | lb/MMSCF | AP-42 Section 1.4                    |
| Beryllium                      | 0.000012 | lb/MMSCF | AP-42 Section 1.4                    |
| Cadmium                        | 0.0011   | lb/MMSCF | AP-42 Section 1.4                    |
| Chromium                       | 0.0014   | lb/MMSCF | AP-42 Section 1.4                    |
| Cobalt                         | 0.000084 | lb/MMSCF | AP-42 Section 1.4                    |
| Lead                           | 0.0005   | lb/MMSCF | AP-42 Section 1.4                    |
| Manganese                      | 0.00038  | lb/MMSCF | AP-42 Section 1.4                    |
| Mercury                        | 0.00026  | lb/MMSCF | AP-42 Section 1.4                    |
| Nickel                         | 0.0021   | lb/MMSCF | AP-42 Section 1.4                    |
| Selenium                       | 0.000025 | lb/MMSCF | AP-42 Section 1.4                    |

|                                | <b>EQUI219 Make up Air Unit</b> |            |                   |            |
|--------------------------------|---------------------------------|------------|-------------------|------------|
|                                | <b>Uncontrolled</b>             |            | <b>Controlled</b> |            |
|                                | <b>lb/hr</b>                    | <b>TPY</b> | <b>lb/hr</b>      | <b>TPY</b> |
| TSP                            | 0.02                            | 0.08       | 0.02              | 0.08       |
| PM10                           | 0.02                            | 0.08       | 0.02              | 0.08       |
| PM2.5                          | 0.02                            | 0.08       | 0.02              | 0.08       |
| NOx                            | 0.24                            | 1.06       | 0.24              | 1.06       |
| SOx                            | 0.00                            | 0.01       | 0.00              | 0.01       |
| VOC                            | 0.01                            | 0.06       | 0.01              | 0.06       |
| CO                             | 0.20                            | 0.89       | 0.20              | 0.89       |
| CO2                            | 288.02                          | 1261.51    | 288.02            | 1261.51    |
| CH4                            | 0.01                            | 0.02       | 0.01              | 0.02       |
| N2O                            | 0.00                            | 0.00       | 0.00              | 0.00       |
| CO2e                           | 288.30                          | 1262.75    | 288.30            | 1262.75    |
| 2-Methylnaphthalene            | 0.00                            | 0.00       | 0.00              | 0.00       |
| 3-Methylchloranthrene          | 0.00                            | 0.00       | 0.00              | 0.00       |
| 7,12-Dimethylbenz(a)anthracene | 0.00                            | 0.00       | 0.00              | 0.00       |
| Acenaphthene                   | 0.00                            | 0.00       | 0.00              | 0.00       |
| Acenaphthylene                 | 0.00                            | 0.00       | 0.00              | 0.00       |
| Anthracene                     | 0.00                            | 0.00       | 0.00              | 0.00       |
| Benz(a)anthracene              | 0.00                            | 0.00       | 0.00              | 0.00       |
| Benzene                        | 0.00                            | 0.00       | 0.00              | 0.00       |
| Benzo(a)pyrene                 | 0.00                            | 0.00       | 0.00              | 0.00       |
| Benzo(b)fluoranthene           | 0.00                            | 0.00       | 0.00              | 0.00       |
| Benzo(g,h,i)perylene           | 0.00                            | 0.00       | 0.00              | 0.00       |
| Benzo(k)fluoranthene           | 0.00                            | 0.00       | 0.00              | 0.00       |
| Chrysene                       | 0.00                            | 0.00       | 0.00              | 0.00       |
| Dibenzo(a,h)anthracene         | 0.00                            | 0.00       | 0.00              | 0.00       |
| Dichlorobenzene                | 0.00                            | 0.00       | 0.00              | 0.00       |
| Formaldehyde                   | 0.00                            | 0.00       | 0.00              | 0.00       |
| Fluoranthene                   | 0.00                            | 0.00       | 0.00              | 0.00       |
| Fluorene                       | 0.00                            | 0.00       | 0.00              | 0.00       |
| Hexane                         | 0.00                            | 0.02       | 0.00              | 0.02       |
| Indeno(1,2,3-cd)pyrene         | 0.00                            | 0.00       | 0.00              | 0.00       |
| Naphthalene                    | 0.00                            | 0.00       | 0.00              | 0.00       |
| Phenanthrene                   | 0.00                            | 0.00       | 0.00              | 0.00       |
| Pyrene                         | 0.00                            | 0.00       | 0.00              | 0.00       |
| Toluene                        | 0.00                            | 0.00       | 0.00              | 0.00       |
| Arsenic                        | 0.00                            | 0.00       | 0.00              | 0.00       |
| Beryllium                      | 0.00                            | 0.00       | 0.00              | 0.00       |
| Cadmium                        | 0.00                            | 0.00       | 0.00              | 0.00       |
| Chromium                       | 0.00                            | 0.00       | 0.00              | 0.00       |
| Cobalt                         | 0.00                            | 0.00       | 0.00              | 0.00       |
| Lead                           | 0.00                            | 0.00       | 0.00              | 0.00       |
| Manganese                      | 0.00                            | 0.00       | 0.00              | 0.00       |
| Mercury                        | 0.00                            | 0.00       | 0.00              | 0.00       |
| Nickel                         | 0.00                            | 0.00       | 0.00              | 0.00       |
| Selenium                       | 0.00                            | 0.00       | 0.00              | 0.00       |
| Total HAPs                     | 0.00                            | 0.02       | 0.00              | 0.02       |

**POET Biorefining - Preston**  
**Preston, MN**  
**Brewery Waste Receiving**  
**FUGI18**

**Emission Factors: AP-42, Section 5.2**

Brewery waste will be delivered to the distillation process sump and directed to the beerwell. This page

According to AP-42, Chapter 5.2 - Transportation and Marketing of Petroleum Liquids, the VOC emissions

$$L = 12.46 \times (SPM)/T$$

where:

L = loading loss (lbs/kgal)

S = a saturation factor (see AP-42, Table 5.2)

P = true vapor pressure of the liquid loaded (

M = molecular weight of vapors

T = temperature of the bulk liquid loaded (de

|                                  |      |
|----------------------------------|------|
| Beer                             | S    |
| Brewery Waste (dedicated normal) | 1.45 |

Vapor pressure data based on 80% water/20% ethanol mixture at 68 degrees F

**1. Potential to Emit for VOC:**

Total Brewery Waste Load-in =                      20,800,000                      gallons/year  
                                                                                  16,000                      gallons/hour

|               | Hourly Emissions (lb/hr) | Annual Emissions (TPY) |
|---------------|--------------------------|------------------------|
| VOC Emissions | 1.94                     | 1.26                   |
| Acetaldehyde  | 1.37E-02                 | 8.90E-03               |
| Acrolein      | 1.18E-04                 | 7.66E-05               |
| Methanol      | 1.33E-03                 | 8.62E-04               |
| Formaldehyde  | 3.40E-04                 | 2.21E-04               |

VOC Emissions (TPY) = L (lbs/kgal) x Brewery Waste kgal/yr x Mass Fraction of VOC Vapors / 2000 lb  
HAP emissions are estimated conservatively assuming the same ratio of uncontrolled emissions as ca

**Vapor Pressure and Molecular Weight Calculations**

| Chemical | CAS     | Weight Fraction<br>in liquid |
|----------|---------|------------------------------|
| Ethanol  | 64-17-5 | 20.00%                       |
| Water    |         | 80.00%                       |
|          |         | <b>100.0%</b>                |

\*HAP concentrations are assumed negligible for purposes of vapor calculation

\*Conservatively assuming 0 solids for the purposes of calculating vapor pressure

e calculations loading loss associated with loading into the brewery waste into the sump.

ion factors for this activity can be estimated from the following equation:

:-1)  
psia)

gree R)

| P (psia) | M (lbs/mole lbs) | T (degree R) | L (lbs/kgal) |
|----------|------------------|--------------|--------------|
| 0.3858   | 23.601           | 527          | 0.31         |

\*Assumes 2 trucks per hour

bs/tons  
alculated for the distillation scrubber.

|      | MW        | Specific |          | Mole Fraction | VP @ 68F |
|------|-----------|----------|----------|---------------|----------|
| lbs  | lbs/lbmol | Gravity  | Moles    | Liquid        | mmHg     |
| 0.20 | 46.07     | 0.79     | 4.34E-03 | 8.91%         | 44.60    |
| 0.80 | 18.02     | 1.00     | 4.44E-02 | 91.09%        | 17.54    |
| 1.00 |           |          | 4.87E-02 | 100.0%        |          |

| <b>Partial Pressure</b> | <b>Mole Fraction</b> | <b>Vapor</b>  | <b>Mass Fraction</b> |
|-------------------------|----------------------|---------------|----------------------|
| <b>mmHg</b>             | <b>Vapor</b>         | <b>MW</b>     | <b>Vapor</b>         |
| 3.972                   | 19.91%               | 9.172         | 38.86%               |
| 15.978                  | 80.09%               | 14.429        | 61.14%               |
| <b>19.950</b>           | <b>100%</b>          | <b>23.601</b> | <b>100.00%</b>       |

POET Biorefining - Preston  
Preston, MN  
Insignificant Activities

Minn. Adm. Rule 7007.1300 Subpart 2 includes insignificant activities that are not required to be listed in a permit application. Subpart 3 list activities that are required to be listed. Activities that generate emissions and qualify as insignificant activities are addressed on this page.

|                        | TSP    |         | PM10   |         | PM2.5  |        | NOx    |         | SOx    |         | VOC      |          | CO     |         | Acetaldehyde |         | Total HAP |          | CO2e    |         | CO2     |         | CH4    |         | N2O    |         |
|------------------------|--------|---------|--------|---------|--------|--------|--------|---------|--------|---------|----------|----------|--------|---------|--------------|---------|-----------|----------|---------|---------|---------|---------|--------|---------|--------|---------|
|                        | lb/hr  | Lim tpy | lb/hr  | Lim tpy | lb/hr  | ton/yr | lb/hr  | Lim tpy | lb/hr  | Lim tpy | lb/hr    | Lim tpy  | lb/hr  | Lim tpy | lb/hr        | Lim tpy | lb/hr     | Lim tpy  | lb/hr   | Lim tpy | lb/hr   | Lim tpy | lb/hr  | Lim tpy | lb/hr  | Lim tpy |
| Space Heaters (3)      | 0.0081 | 0.0356  | 0.0027 | 0.0117  | 0.0020 | 0.0090 | 0.0493 | 0.2159  | 0.0140 | 0.0613  | 0.0014   | 0.0060   | 0.0123 | 0.0540  |              |         | 0.0002    | 0.0007   | 53      | 233     | 53.0    | 232.1   | 0.0005 | 0.0023  | 0.0006 | 0.0028  |
| Distillation Tanks (2) | -      | -       | -      | -       | -      | -      | -      | -       | -      | -       | 0.100    | 0.436    | -      | -       | 0.0004       | 0.0017  | 0.0004    | 0.0017   | -       | -       | -       | -       | -      | -       | -      | -       |
| Diesel Tank            |        |         |        |         |        |        |        |         |        |         | 1.83E-05 | 8.00E-05 |        |         |              |         | 1.83E-05  | 8.00E-05 |         |         |         |         |        |         |        |         |
| Total                  | 0.0081 | 0.0356  | 0.0027 | 0.0117  | 0.0020 | 0.0090 | 0.0493 | 0.2159  | 0.0140 | 0.0613  | 0.1010   | 0.4422   | 0.0123 | 0.0540  | 0.0004       | 0.0017  | 0.0006    | 0.0026   | 53.1864 | #####   | 52.9821 | #####   | 0.0005 | 0.0023  | 0.0006 | 0.0028  |

Space Heaters

Subpart 3.A Fuel Use with reference to Subpart 3.I

The facility has the following kerosene fired space heaters. The heaters are direct vent and do not have stacks. These emissions are not controlled.

|                 | Capacity (Btu/hr) | 10 <sup>3</sup> gallon = | 140 MMBTU      | AP-42 Section 1.3 |
|-----------------|-------------------|--------------------------|----------------|-------------------|
| Space Heater #1 | 200000            | 10 <sup>3</sup> gallon = | 1400000000 BTU |                   |
| Space Heater #2 | 75000             |                          |                |                   |
| Space Heater #3 | 70000             | 1 year =                 | 8760 hours     |                   |
| Total           | 345000            | 1 ton =                  | 2000 pounds    |                   |

| Kerosene Combustion Emission Factors <sup>1</sup> |                        |                                   | Emission Calculations |          |
|---------------------------------------------------|------------------------|-----------------------------------|-----------------------|----------|
|                                                   | lb/10 <sup>3</sup> Gal |                                   | lb/hr                 | ton/year |
| TSP                                               | 3.3                    | AP-42 Table 1.3-1 and Table 1.3-2 | 0.008                 | 0.036    |
| PM10                                              | 1.08                   | AP-42 Table 1.3-7                 | 0.003                 | 0.012    |
| PM2.5                                             | 0.83                   | AP-42 Table 1.3-7                 | 0.002                 | 0.009    |
| NOx                                               | 20                     | AP-42 Table 1.3-1                 | 0.049                 | 0.216    |
| SOx                                               | 5.68                   | AP-42 Table 1.3-1                 | 0.014                 | 0.061    |
| VOC                                               | 0.556                  | AP-42 Table 1.3-3                 | 0.001                 | 0.006    |
| CO                                                | 5                      | AP-42 Table 1.3-1                 | 0.012                 | 0.054    |
| CO2                                               | 21500                  | AP-42 Table 1.3-12                | 52.982                | 232.062  |
| CH4                                               | 0.216                  | AP-42 Table 1.3-3                 | 0.001                 | 0.002    |
| N2O                                               | 0.26                   | AP-42 Table 1.3-8                 | 0.001                 | 0.003    |
| CO2e                                              | 21583                  | USEPA GHG GWPs, 11/19/15          | 53.186                | 232.956  |
| Benzene                                           | 2.14E-04               | AP-42 Table 1.3-9                 | 0.000                 | 0.000    |
| Ethylbenzene                                      | 6.36E-05               | AP-42 Table 1.3-9                 | 0.000                 | 0.000    |
| Formaldehyde                                      | 6.10E-02               | AP-42 Table 1.3-8                 | 0.000                 | 0.001    |
| Naphthalene                                       | 1.13E-03               | AP-42 Table 1.3-9                 | 0.000                 | 0.000    |
| 1,1,1 Trichloroethane                             | 2.36E-04               | AP-42 Table 1.3-9                 | 0.000                 | 0.000    |
| Toluene                                           | 6.20E-03               | AP-42 Table 1.3-9                 | 0.000                 | 0.000    |
| Xylenes                                           | 1.09E-04               | AP-42 Table 1.3-9                 | 0.000                 | 0.000    |
| Total HAPs                                        |                        |                                   | 0.000                 | 0.001    |

<sup>1</sup> Emissions factors for kerosene combustion were taken from AP-42 Section 1.3 for distillate or No 2 oil, where available

Distillate Tanks

The distillate tanks are 10,000 gallon and 60,000 gallon capacities. The two distillate tanks vent to atmosphere.

Methodology:

- 1. It is assumed the liquid level sweeps up and down, between 20% (low level control) and 70% (high level control) twice per week, resulting an average change in volume of 2,800 gallons per day for Tank 1 and 17,000 gallons per day for Tank 2.
- 2. In dilute ethanol conditions, the slope of the ethanol vapor-liquid equilibrium equation (be weight) approaches 6. Therefore, the vapor space will be at six times the concentration of ethanol.
- 3. Analysis of whole stillage at POET Biorefining - Ashton on 4-21-2015 showed ethanol concentrations of 8 ppm ethanol and 1.7 ppm acetaldehyde. For normal conditions, a conservative value of 10 ppm ethanol and 2 ppm acetaldehyde is assumed. During upset conditions, ethanol concentrations could be as high as 500 ppm. Concentrations in excess of this result in observable changes in distillation which would trigger a response by operations. A maximum acetaldehyde concentrations of 2 ppm is assumed, as it is difficult to keep acetaldehyde in water solution above this concentration.

|              |   |            |   |      |         |
|--------------|---|------------|---|------|---------|
| Conversions: | 1 | cubic foot | = | 7.48 | gallons |
|              | 1 | day        | = | 24   | hours   |

Given:

|                                  |                                                                |
|----------------------------------|----------------------------------------------------------------|
| Tank 1 Volume Fluctuations       | 2,857 gallons per day                                          |
| Tank 2 Volume Fluctuations       | 17,143 gallons per day                                         |
| Max Ethanol Concentration        | 500 ppmw                                                       |
| Max Acetaldehyde Conc.           | 2 ppmw                                                         |
| Flow Rate =                      | 80 gpm                                                         |
| Service Temp =                   | 200 F                                                          |
| from ASME Steam Tables           | 33.7 cubic foot per lb                                         |
| dilute concentrations of ethanol | 6 ethanol vapor weight fraction/ethanol liquid weight fraction |

| Uncontrolled Emissions | Tank 1 |          | Tank 2 |          | Combined Tanks |          |
|------------------------|--------|----------|--------|----------|----------------|----------|
|                        | lb/hr  | ton/year | lb/hr  | ton/year | lb/hr          | ton/year |
| Ethanol                | 0.014  | 0.062    | 0.085  | 0.372    | 0.099          | 0.434    |
| Acetaldehyde           | 0.0001 | 0.000    | 0.0003 | 0.001    | 0.000          | 0.0017   |
| Total VOC              | 0.014  | 0.062    | 0.085  | 0.374    | 0.100          | 0.436    |

Diesel Storage Tanks

Minn. Adm. Rule 7007.1300 Subpart 2 includes insignificant activities that are not required to be listed in a permit application (welding equipment, laboratory hood, spray painting, unpaved, non-haul roads). Subpart 3 lists activities that are required to be listed. The emissions from the 17,000 gal diesel storage tank T-950 are calculated using TANKS 4.0.9d software. Output fom TANKS runs are attached. HAP composition of the emissions are unknown so it is conservatively assumed that VOC = HAP.

Diesel Tank - 525 gallons

| Uncontrolled Emissions | lb/hr    | ton/year |
|------------------------|----------|----------|
| Total VOC              | 1.83E-05 | 8.00E-05 |
| Total HAP              | 1.83E-05 | 8.00E-05 |

The following are insignificant activities at the facility required to be listed:

|                                  |                 |                                                              |
|----------------------------------|-----------------|--------------------------------------------------------------|
| Kerosene Space Heaters           | Subpart 3.A     | Calculations included above                                  |
| Diesel Storage Tank (500 gal)    | Subpart 3.E.(1) |                                                              |
| 2 Front Office Furnaces          | Subpart 3.B.(2) |                                                              |
| 2 Plant Office Furnaces          | Subpart 3.B.(2) |                                                              |
| Quality Assurance Lab            | Subpart 3.G     |                                                              |
| Welding, Brazing, Soldering      | Subpart 3.H.(3) |                                                              |
| Office Photocopiers              | Subpart 3.H.(4) |                                                              |
| Corn Oil System                  | Subpart 3.I     | Assigned EU Number and calculations included on separate tab |
| Distillate Tanks                 | Subpart 3.I     | Calculations included above                                  |
| Whole Stillage Tank              | Subpart 3.I     | Assigned EU Number and calculations included on separate tab |
| Thin Stillage Tank               | Subpart 3.I     | Assigned EU Number and calculations included on separate tab |
| Syrup Tanks                      | Subpart 3.I     | Assigned EU Number and calculations included on separate tab |
| Spray Paint used for Maintenance | Subpart 3.K     |                                                              |
| CO2 Skids and Tanks              | Subpart 3.I     |                                                              |



## **Attachment 2 - Subject Item Inventory and Facility Requirements**

## SI List

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Category     | SI Type                              | Subject Item ID | Delta Designation | Description                             |  |
|-----------------|--------------------------------------|-----------------|-------------------|-----------------------------------------|--|
| Activity        | Insignificant Air Emissions Activity | ACTV 3          | Null              | All IAs                                 |  |
| Agency Interest | Conventional Site                    | AI SI 715       | Null              | Null                                    |  |
| Component Group | Air Component Group                  | COMG 4          | GP001             | Boiler and Dryer Fuel Use               |  |
|                 |                                      | COMG 12         | Null              | Grain Milling                           |  |
|                 |                                      | COMG 13         | Null              | HAP Limit                               |  |
|                 |                                      | COMG 14         | Null              | Fermentation Scrubber                   |  |
|                 |                                      | COMG 15         | Null              | Distillation Scrubber                   |  |
|                 |                                      | COMG 16         | Null              | NSPS DD                                 |  |
|                 |                                      | COMG 17         | Null              | DDGS Silo                               |  |
|                 |                                      | COMG 18         | Null              | Grain Handling Pit #1                   |  |
|                 |                                      | COMG 19         | Null              | Receiving Pit #2                        |  |
|                 |                                      | COMG 20         | Null              | Centrifuges to Atmosphere               |  |
|                 |                                      | COMG 21         | Null              | 3-Chambered RTO                         |  |
|                 |                                      | COMG 22         | Null              | RTO 2                                   |  |
|                 |                                      | COMG 23         | Null              | Hammermill #1                           |  |
|                 |                                      | COMG 24         | Null              | Hammermill #2                           |  |
|                 |                                      | COMG 25         | Null              | Hammermill #3                           |  |
|                 |                                      | COMG 26         | Null              | Hammermill #4                           |  |
|                 |                                      | COMG 27         | Null              | Hammermill #5                           |  |
| Equipment       | Aboveground Storage Tank             | EQUI 34         | TK010             | 200 Proof Ethanol Storage Tank (T804)   |  |
|                 |                                      | EQUI 35         | TK011             | 200 Proof Ethanol Storage Tank (T806)   |  |
|                 |                                      | EQUI 36         | TK006             | 190 Proof Ethanol Storage Tank          |  |
|                 |                                      | EQUI 37         | TK012             | 200 Proof Ethanol Storage Tank (T803)   |  |
|                 |                                      | EQUI 38         | TK013             | Denaturant Tank (T802)                  |  |
|                 |                                      | EQUI 212        | Null              | Corrosion Inhibitor Storage Tank (T852) |  |
|                 | Boiler                               | EQUI 9          | EU018             | Boiler #1                               |  |
|                 |                                      | EQUI 14         | EU038             | Boiler #2                               |  |
|                 | Conveyor                             | EQUI 16         | EU040             | Bin Loading Conveyor 1                  |  |
|                 |                                      | EQUI 32         | EU063             | Hi-Roller Bin Loading Conveyor 1        |  |
|                 |                                      | EQUI 96         | EU076             | Hammermill Flour Collection Conveyor    |  |
|                 |                                      | EQUI 97         | EU075             | Hammermill Feed Conveyor                |  |
|                 |                                      | EQUI 180        | Null              | Grain Receiving Conveyor 1              |  |
|                 |                                      | EQUI 181        | Null              | Grain Receiving Conveyor 2              |  |
|                 |                                      | EQUI 182        | Null              | Bin Loading Conveyor 2                  |  |
|                 |                                      | EQUI 183        | Null              | Bin Loading Conveyor 3                  |  |
|                 |                                      | EQUI 184        | Null              | Bin Unloading Conveyor 1                |  |
|                 |                                      | EQUI 185        | Null              | Bin Unloading Conveyor 2                |  |
|                 |                                      | EQUI 186        | Null              | Bin Unloading Conveyor 3                |  |
|                 |                                      | EQUI 187        | Null              | Dust Conveyor 1                         |  |
|                 |                                      | EQUI 188        | Null              | Grain Receiving Conveyor 3              |  |
|                 |                                      | EQUI 190        | Null              | Hi-Roller Bin Loading Conveyor 2        |  |
|                 |                                      | EQUI 191        | Null              | Hi-Roller Bin Unloading Conveyor 2      |  |
|                 |                                      | EQUI 198        | Null              | DDGS Silo Unloading Conveyor            |  |
|                 |                                      | EQUI 199        | Null              | DDGS Flat Storage Conveyor              |  |
|                 |                                      | EQUI 200        | Null              | DDGS Reclaim Pit Conveyor               |  |
|                 |                                      | EQUI 201        | Null              | DDGS Truck Loadout Pit Conveyor         |  |
|                 |                                      | EQUI 220        | Null              | Hammermill #1 Conveyor                  |  |
|                 |                                      | EQUI 221        | Null              | Hammermill #2 Conveyor                  |  |
|                 |                                      | EQUI 222        | Null              | Hammermill #3 Conveyor                  |  |
|                 |                                      | EQUI 223        | Null              | Hammermill #4 Conveyor                  |  |
|                 |                                      | EQUI 233        | Null              | Bin Unloading Conveyor 5                |  |
|                 |                                      | EQUI 235        | Null              | Hammermill #5 Conveyor                  |  |
|                 | Cooler                               | EQUI 23         | EU047             | Fluid Bed Cooler                        |  |
|                 | Dehydrator                           | EQUI 6          | EU014             | Evaporator                              |  |
|                 | Distillation Equipment               | EQUI 13         | EU036             | Rectifier                               |  |
|                 |                                      | EQUI 226        | Null              | Distillation Unit #1                    |  |
|                 |                                      | EQUI 227        | Null              | Distillation Unit #2                    |  |
|                 |                                      | EQUI 228        | Null              | Distillation Unit #3                    |  |
|                 |                                      | EQUI 229        | Null              | Distillation Unit #4                    |  |
|                 |                                      | EQUI 230        | Null              | Distillation Unit #5                    |  |
|                 |                                      | EQUI 231        | Null              | Distillation Unit #6                    |  |
|                 | Dryer/Oven, unknown firing method    | EQUI 20         | EU015             | DDGS Dryer #1 with Multicyclone         |  |
|                 |                                      | EQUI 61         | EU037             | DDGS Dryer #2 with Multicyclone         |  |
|                 | Elevator                             | EQUI 2          | EU002             | Grain Receiving Elevator 1              |  |
|                 |                                      | EQUI 8          | EU017             | DDGS Loadout Elevator                   |  |
|                 |                                      | EQUI 15         | EU039             | Grain Receiving Elevator 2              |  |
|                 |                                      | EQUI 189        | Null              | Grain Receiving Elevator 3              |  |
|                 |                                      | EQUI 193        | Null              | Hammermill Feed Elevator                |  |
|                 | Fermentation Equipment               | EQUI 12         | EU035             | Fermenter #6                            |  |
|                 |                                      | EQUI 54         | EU025             | Fermenter #1                            |  |
|                 |                                      | EQUI 55         | EU026             | Fermenter #2                            |  |
|                 |                                      | EQUI 56         | EU027             | Fermenter #7                            |  |
|                 |                                      | EQUI 57         | EU028             | Beer Well                               |  |

## SI List

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Category | SI Type                            | Subject Item ID | Delta Designation | Description                                                   |  |
|-------------|------------------------------------|-----------------|-------------------|---------------------------------------------------------------|--|
| Equipment   | Fermentation Equipment             | EQUI 58         | EU032             | Fermenter #3                                                  |  |
|             |                                    | EQUI 59         | EU033             | Fermenter #4                                                  |  |
|             |                                    | EQUI 60         | EU034             | Fermenter #5                                                  |  |
|             |                                    | EQUI 63         | EU050             | Fermenter #8                                                  |  |
|             |                                    | EQUI 64         | EU051             | Fermenter #9                                                  |  |
|             |                                    | EQUI 65         | EU052             | Fermenter #10                                                 |  |
|             |                                    | EQUI 66         | EU053             | Fermenter #11                                                 |  |
|             |                                    | EQUI 68         | EU068             | Slurry Tank                                                   |  |
|             |                                    | EQUI 71         | EU071             | Ethanol Loading Rack #2                                       |  |
|             |                                    | EQUI 205        | Null              | Fermenter #12                                                 |  |
|             |                                    | EQUI 206        | Null              | Fermenter #13                                                 |  |
|             |                                    | EQUI 217        | Null              | Yeast Tank #2                                                 |  |
|             |                                    | EQUI 236        | Null              | Fermenter #14                                                 |  |
|             |                                    | EQUI 237        | Null              | Fermenter #15                                                 |  |
|             | Liquefaction Equipment             | EQUI 69         | EU069             | Yeast Tank #1                                                 |  |
|             |                                    | EQUI 70         | EU070             | 190 Production Rundown Tank                                   |  |
|             | Loading-Unloading Equipment        | EQUI 28         | EU059             | Grain Receiving Pit 2                                         |  |
|             |                                    | EQUI 67         | EU023             | Ethanol Loading Rack #1                                       |  |
|             |                                    | EQUI 179        | EU073             | DDGS Truck Loadout Spout                                      |  |
|             |                                    | EQUI 202        | Null              | DDGS Portable Container Loadout                               |  |
|             | Material Handling Equipment        | EQUI 1          | EU001             | Grain Receiving Pit 1                                         |  |
|             |                                    | EQUI 177        | EU066             | DDGS Reclaim Pit                                              |  |
|             |                                    | EQUI 195        | Null              | Whole Stillage Tank                                           |  |
|             |                                    | EQUI 196        | Null              | Thin Stillage Tank                                            |  |
|             |                                    | EQUI 197        | Null              | Syrup Tank #1                                                 |  |
|             |                                    | EQUI 211        | Null              | Syrup Tank #2                                                 |  |
|             | Milling Equipment                  | EQUI 225        | Null              | DDGS Storage Building Handling                                |  |
|             |                                    | EQUI 24         | EU054             | Hammermill 1                                                  |  |
|             |                                    | EQUI 25         | EU055             | Hammermill 2                                                  |  |
|             |                                    | EQUI 26         | EU056             | Hammermill 3                                                  |  |
|             |                                    | EQUI 27         | EU057             | Hammermill 4                                                  |  |
|             | Other Combustion                   | EQUI 234        | Null              | Hammermill 5                                                  |  |
|             |                                    | EQUI 219        | Null              | Make-Up Air Unit                                              |  |
|             | Other Emission Unit                | EQUI 3          | EU003             | Scalper                                                       |  |
|             |                                    | EQUI 5          | EU013             | DDGS Storage Building                                         |  |
|             | Reciprocating IC Engine            | EQUI 218        | Null              | Emergency Diesel Generator                                    |  |
|             | Rolling Equipment                  | EQUI 33         | EU064             | Hi-Roller Bin Unloading Conveyor 1                            |  |
|             | Separation Equipment               | EQUI 4          | EU012             | Molecular Sieves #1                                           |  |
|             |                                    | EQUI 83         | EU048             | DDG Separating Cyclone                                        |  |
|             |                                    | EQUI 194        | Null              | Molecular Sieves #2                                           |  |
|             |                                    | EQUI 203        | Null              | Corn Oil System                                               |  |
|             |                                    | EQUI 204        | Null              | Flour Receiver                                                |  |
|             |                                    | EQUI 213        | EU041             | Flour Receiver                                                |  |
|             |                                    | EQUI 214        | Null              | Centrifuge 1                                                  |  |
|             |                                    | EQUI 215        | Null              | Centrifuge 2                                                  |  |
|             |                                    | EQUI 216        | Null              | Centrifuge 3                                                  |  |
|             | Silo/Bin                           | EQUI 11         | EU031             | DDGS Silo                                                     |  |
|             |                                    | EQUI 29         | EU060             | Grain Storage Bin 7                                           |  |
|             |                                    | EQUI 30         | EU061             | Grain Storage Bin 8                                           |  |
|             |                                    | EQUI 31         | EU062             | Grain Storage Bin 9                                           |  |
|             |                                    | EQUI 47         | EU004             | Grain Storage Bin 1                                           |  |
|             |                                    | EQUI 48         | EU005             | Grain Storage Bin 2                                           |  |
|             |                                    | EQUI 49         | EU006             | Grain Storage Bin 3                                           |  |
|             |                                    | EQUI 50         | EU007             | Grain Storage Bin 4                                           |  |
|             |                                    | EQUI 51         | EU030             | Grain Storage Bin 5                                           |  |
|             |                                    | EQUI 52         | EU049             | Grain Bin 6 (Surge Bin)                                       |  |
|             | Stripping Equipment                | EQUI 17         | EU042             | Beer Stripper #2                                              |  |
|             |                                    | EQUI 53         | EU009             | Beer Stripper #1                                              |  |
|             |                                    | EQUI 62         | EU044             | Side Stripper                                                 |  |
|             |                                    | EQUI 207        | Null              | Beer Stripper #3                                              |  |
| Fugitive    | Cooling Tower                      | FUGI 15         | Null              | Cooling Tower 1                                               |  |
|             |                                    | FUGI 16         | Null              | Cooling Tower 2                                               |  |
|             | Equipment Leaks                    | FUGI 7          | FS005             | Miscellaneous VOC Fugitives (non-tank farm) - Equipment Leaks |  |
|             |                                    | FUGI 13         | FS009             | Tank Farm Fugitive VOCs - Equipment Leaks                     |  |
|             |                                    | FUGI 20         | Null              | Fermenter and Beerwell Leaks (non-LDAR)                       |  |
|             | Material Handling/Transfer/Storage | FUGI 12         | FS008             | Wet Cake Production - Material Handling/Transfer/Storage      |  |
|             |                                    | FUGI 21         | Null              | Brewery Waste Receiving                                       |  |
|             | Vehicle Emissions                  | FUGI 1          | FS001             | Truck Traffic - Paved Roads                                   |  |
| Structure   | Stack/Vent                         | STRU 1          | SV017             | Boiler #2                                                     |  |
|             |                                    | STRU 8          | SV003             | Fermentation Scrubber (TREA19 & 25)                           |  |
|             |                                    | STRU 9          | SV004             | Rotary Dryer Vent to Atmosphere                               |  |
|             |                                    | STRU 13         | SV010             | Distillation Scrubber (TREA17)                                |  |
|             |                                    | STRU 16         | SV015             | Flare (TREA6)                                                 |  |

SI List

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category    | SI Type                                       | Subject Item ID | Delta Designation | Description                    |  |
|----------------|-----------------------------------------------|-----------------|-------------------|--------------------------------|--|
| Structure      | Stack/Vent                                    | STRU 17         | SV016             | DDGS Silo (TREA20)             |  |
|                |                                               | STRU 18         | SV020             | Flour receiver (CE 006)        |  |
|                |                                               | STRU 20         | SV022             | Fluid Bed CE Stack (TREA22)    |  |
|                |                                               | STRU 21         | SV023             | Ring Dryer Vent to Atmosphere  |  |
|                |                                               | STRU 22         | SV029             | 3-Chambered RTO (TREA14)       |  |
|                |                                               | STRU 23         | SV030             | Receiving Pit #2 (TREA11)      |  |
|                |                                               | STRU 29         | SV025             | Hammermill #1 (TREA7)          |  |
|                |                                               | STRU 30         | SV026             | Hammermill #2 (TREA8)          |  |
|                |                                               | STRU 31         | SV027             | Hammermill #3 (TREA9)          |  |
|                |                                               | STRU 32         | SV028             | Hammermill #4 (TREA10)         |  |
|                |                                               | STRU 33         | SV001             | Grain Handling Pit #1 (TREA15) |  |
|                |                                               | STRU 34         | SV011             | Boiler #1                      |  |
|                |                                               | STRU 41         | Null              | Centrifuges to Atmosphere      |  |
|                |                                               | STRU 42         | Null              | Generator                      |  |
|                |                                               | STRU 43         | Null              | Flour Receiver (Replacement)   |  |
|                |                                               | STRU 45         | Null              | Whole Stillage Tank            |  |
|                |                                               | STRU 46         | Null              | Thin Stillage Tank             |  |
|                |                                               | STRU 47         | Null              | Syrup Tank #1                  |  |
|                |                                               | STRU 48         | Null              | Syrup Tank #2                  |  |
|                |                                               | STRU 57         | Null              | RTO 2 Stack                    |  |
|                |                                               | STRU 58         | Null              | Hammermill #5 Stack            |  |
| Total Facility | Air Quality Total Facility                    | TFAC 1          | 04500049          | POET Biorefining - Preston     |  |
| Treatment      | 018-Fabric Filter - Low Temp, T<180 Degrees F | TREA 7          | CE016             | Hammermill #1                  |  |
|                |                                               | TREA 8          | CE017             | Hammermill #2                  |  |
|                |                                               | TREA 9          | CE018             | Hammermill #3                  |  |
|                |                                               | TREA 10         | CE019             | Hammermill #4                  |  |
|                |                                               | TREA 11         | CE021             | Grain Receiving #2             |  |
|                |                                               | TREA 15         | CE001             | Grain Receiving #1             |  |
|                |                                               | TREA 20         | CE010             | Silo Baghouse                  |  |
|                |                                               | TREA 22         | CE013             | Fluid Bed Baghouse             |  |
|                |                                               | TREA 26         | Null              | Hammermill 5 Baghouse          |  |
|                | 023-Flaring                                   | TREA 6          | CE015             | Flaring                        |  |
|                | 050-Packed-Gas Adsorption Column              | TREA 17         | CE005             | Packed-Gas Adsorption Column   |  |
|                |                                               | TREA 19         | CE009             | Packed-Gas Adsorption Column   |  |
|                |                                               | TREA 25         | Null              | Packed-Gas Adsorption Column   |  |
|                | 131-Thermal Oxidizer                          | TREA 14         | CE020             | Thermal Oxidizer               |  |
|                |                                               | TREA 27         | Null              | RTO 2                          |  |

Insignificant Activities

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category | SI Type                              | Status Description | Sub Attribute Description         |  |
|-------------|--------------------------------------|--------------------|-----------------------------------|--|
| Activity    | Insignificant Air Emissions Activity | Active / Existing  | Minn. R. 7007.1300, subp. 3(A)    |  |
|             |                                      |                    | Minn. R. 7007.1300, subp. 3(B)(2) |  |
|             |                                      |                    | Minn. R. 7007.1300, subp. 3(D)    |  |
|             |                                      |                    | Minn. R. 7007.1300, subp. 3(E)    |  |
|             |                                      |                    | Minn. R. 7007.1300, subp. 3(F)    |  |

Emission Units 1

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Type                           | Subject Item ID | Delta Designation | Description                     | Manufacturer                                  | Model            | Max Design Capacity | Max Design Capacity Units           | Material | Firing Method    | Subject to CSAPR? | Electric Generating Capacity (MW) | Construction Start Date | Operation Start Date | Modification Date |  |
|-----------------------------------|-----------------|-------------------|---------------------------------|-----------------------------------------------|------------------|---------------------|-------------------------------------|----------|------------------|-------------------|-----------------------------------|-------------------------|----------------------|-------------------|--|
| Boiler                            | EQUI 9          | EU018             | Boiler #1                       | Johnston                                      | PFTA1500-4GP150S | 63                  | million British thermal units/hours | Heat     | Not coal burning | N                 | Null                              | 9/1/1997                | 4/1/1998             | Null              |  |
|                                   | EQUI 14         | EU038             | Boiler #2                       | Johnston                                      | PFTS1800-3GP150S | 73                  | million British thermal units/hours | Heat     | Not coal burning | N                 | Null                              | 4/1/2001                | 3/1/2002             | Null              |  |
| Dryer/Oven, unknown firing method | EQUI 20         | EU015             | DDGS Dryer #1 with Multicyclone | ICM/Eclipse                                   | Custom           | 60                  | million British thermal units/hours | Heat     | Not coal burning | Null              | Null                              | 7/13/1997               | 8/17/1998            | Null              |  |
|                                   | EQUI 61         | EU037             | DDGS Dryer #2 with Multicyclone | Barr-Rosin                                    | Custom           | 46                  | million British thermal units/hours | Heat     | Not coal burning | Null              | Null                              | 8/17/2001               | 8/1/2002             | Null              |  |
| Other Combustion                  | EQUI 219        | Null              | Make-Up Air Unit                | Industrial Commercial Equipment Manufacturing | BMA 130          | 2.46                | million British thermal units/hours | Heat     | Not coal burning | Null              | Null                              | 4/3/2002                | 6/1/2002             | Null              |  |

Emission Units 2

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Type                 | Subject Item ID | Delta Designation | Description                | Manufacturer | Model | Max Design Capacity | Max Design Capacity Units | Material | Engine Use          | Firing Method | Engine Displacement | Engine Displacement Units | Construction Start Date | Operation Start Date | Modification Date |  |
|-------------------------|-----------------|-------------------|----------------------------|--------------|-------|---------------------|---------------------------|----------|---------------------|---------------|---------------------|---------------------------|-------------------------|----------------------|-------------------|--|
| Reciprocating IC Engine | EQUI 218        | Null              | Emergency Diesel Generator | TBD          | TBD   | 2,250               | kilowatts/each            | Energy   | Emergency/blacks... | CI            | Null                | Null                      | TBD                     | TBD                  | Null              |  |

## Emission Units 3

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Type  | Subject Item ID | Delta Designation | Description                          | Manufacturer   | Model          | Max Design Capacity | Max Design Capacity Units | Material                               | Construction Start Date | Operation Start Date | Modification Date |  |
|----------|-----------------|-------------------|--------------------------------------|----------------|----------------|---------------------|---------------------------|----------------------------------------|-------------------------|----------------------|-------------------|--|
| Conveyor | EQUI 16         | EU040             | Bin Loading Conveyor 1               | Schlagel       | CNL            | 420                 | tons/hours                | Grain                                  | 4/1/2001                | 3/1/2002             | Null              |  |
|          | EQUI 32         | EU063             | Hi-Roller Bin Loading Conveyor 1     | Hi Roller      | 38295-58-36B   | 420                 | tons/hours                | Grain                                  | 3/28/2007               | 9/1/2007             | Null              |  |
|          | EQUI 96         | EU076             | Hammermill Flour Collection Conveyor | Schlagel       | 1214           | 96                  | tons/hours                | Grain                                  | 7/13/1997               | 8/17/1998            | Null              |  |
|          | EQUI 97         | EU075             | Hammermill Feed Conveyor             | Schlagel       | 1210           | 96                  | tons/hours                | Grain                                  | 7/13/1997               | 8/17/1998            | Null              |  |
|          | EQUI 180        | Null              | Grain Receiving Conveyor 1           | Schlagel       | 1614           | 420                 | tons/hours                | Grain                                  | 7/13/1997               | 8/17/1998            | Null              |  |
|          | EQUI 181        | Null              | Grain Receiving Conveyor 2           | Schlagel       | 1818           | 420                 | tons/hours                | Grain                                  | 7/13/1997               | 8/17/1998            | Null              |  |
|          | EQUI 182        | Null              | Bin Loading Conveyor 2               | Schlagel       | 2020           | 420                 | tons/hours                | Grain                                  | 7/13/1997               | 8/17/1998            | Null              |  |
|          | EQUI 183        | Null              | Bin Loading Conveyor 3               | Schlagel       | 1214           | 420                 | tons/hours                | Grain                                  | 4/12/2001               | 8/1/2002             | Null              |  |
|          | EQUI 184        | Null              | Bin Unloading Conveyor 1             | Schlagel       | 1214           | 420                 | tons/hours                | Grain                                  | 4/12/2001               | 8/1/2002             | Null              |  |
|          | EQUI 185        | Null              | Bin Unloading Conveyor 2             | Schlagel       | 1214           | 420                 | tons/hours                | Grain                                  | 7/13/1997               | 8/17/1998            | Null              |  |
|          | EQUI 186        | Null              | Bin Unloading Conveyor 3             | Schlagel       | 1214           | 420                 | tons/hours                | Grain                                  | 4/12/2001               | 8/1/2002             | Null              |  |
|          | EQUI 187        | Null              | Dust Conveyor 1                      | MAC            | 96TS64         | 1                   | tons/hours                | Grain                                  | 7/1/2007                | 10/1/2007            | Null              |  |
|          | EQUI 188        | Null              | Grain Receiving Conveyor 3           | Schlagel       | 1818           | 420                 | tons/hours                | Grain                                  | 7/1/2007                | 10/1/2007            | Null              |  |
|          | EQUI 190        | Null              | Hi-Roller Bin Loading Conveyor 2     | Hi Roller      | 3824.5-218-36B | 420                 | tons/hours                | Grain                                  | 7/1/2007                | 10/1/2007            | Null              |  |
|          | EQUI 191        | Null              | Hi-Roller Bin Unloading Conveyor 2   | Hi Roller      | 2421-254-22B   | 420                 | tons/hours                | Grain                                  | 7/1/2007                | 10/1/2007            | Null              |  |
|          | EQUI 198        | Null              | DDGS Silo Unloading Conveyor         | Schlagel       | 1614           | 184                 | tons/hours                | Distiller's Dried Grains With Solubles | 4/12/2001               | 8/1/2002             | Null              |  |
|          | EQUI 199        | Null              | DDGS Flat Storage Conveyor           | Schlagel       | 1210           | 50                  | tons/hours                | Distiller's Dried Grains With Solubles | 9/12/1997               | 8/17/1998            | Null              |  |
|          | EQUI 200        | Null              | DDGS Reclaim Pit Conveyor            | Schlagel       | 1614           | 47.5                | tons/hours                | Distiller's Dried Grains With Solubles | 7/13/1997               | 8/17/1998            | Null              |  |
|          | EQUI 201        | Null              | DDGS Truck Loadout Pit Conveyor      | Schlagel       | CNL            | 50                  | tons/hours                | Distiller's Dried Grains With Solubles | 7/13/1997               | 8/17/1998            | Null              |  |
|          | EQUI 220        | Null              | Hammermill #1 Conveyor               | Roskamp-Cham.. | HM54-48        | 24                  | tons/hours                | Grain                                  | 8/15/2006               | 8/22/2006            | Null              |  |
|          | EQUI 221        | Null              | Hammermill #2 Conveyor               | Roskamp-Cham.. | HM54-48        | 24                  | tons/hours                | Grain                                  | 8/15/2006               | 8/22/2006            | Null              |  |
|          | EQUI 222        | Null              | Hammermill #3 Conveyor               | Roskamp-Cham.. | HM54-48        | 24                  | tons/hours                | Grain                                  | 8/15/2006               | 8/22/2006            | Null              |  |



## Emission Units 3

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Type                | Subject Item ID | Delta Designation | Description                | Manufacturer     | Model   | Max Design Capacity | Max Design Capacity Units | Material                               | Construction Start Date | Operation Start Date | Modification Date |  |
|------------------------|-----------------|-------------------|----------------------------|------------------|---------|---------------------|---------------------------|----------------------------------------|-------------------------|----------------------|-------------------|--|
| Conveyor               | EQUI 223        | Null              | Hammermill #4 Conveyor     | Roskamp-Cham...  | HM54-48 | 24                  | tons/hours                | Grain                                  | 8/15/2006               | 8/22/2006            | Null              |  |
|                        | EQUI 233        | Null              | Bin Unloading Conveyor 5   | TBD              | TBD     | 120                 | tons/hours                | Grain                                  | TBD                     | TBD                  | Null              |  |
|                        | EQUI 235        | Null              | Hammermill #5 Conveyor     | TBD              | TBD     | 24                  | tons/hours                | Grain                                  | TBD                     | TBD                  | Null              |  |
| Cooler                 | EQUI 23         | EU047             | Fluid Bed Cooler           | Barr Rosin       | Custom  | 24                  | tons/hours                | Distiller's Dried Grains With Solubles | 1/17/2002               | 3/16/2002            | Null              |  |
| Dehydrator             | EQUI 6          | EU014             | Evaporator                 | Nova Fabricating | Custom  | 300                 | gallons/minutes           | Grain                                  | 7/13/1997               | 8/17/1998            | Null              |  |
| Distillation Equipment | EQUI 13         | EU036             | Rectifier                  | A&B Process      | Custom  | 10,500              | gallons/hours             | Ethanol                                | 4/1/2001                | 3/1/2002             | Null              |  |
|                        | EQUI 226        | Null              | Distillation Unit #1       | Custom           | Custom  | 317                 | gallons/minutes           | Beer                                   | 8/1/1997                | 8/1/1998             | Null              |  |
|                        | EQUI 227        | Null              | Distillation Unit #2       | Custom           | Custom  | 384                 | gallons/minutes           | Beer                                   | 4/1/2001                | 3/1/2002             | Null              |  |
|                        | EQUI 228        | Null              | Distillation Unit #3       | Custom           | Custom  | 175                 | gallons/minutes           | Ethanol                                | 1/1/2016                | 6/14/2016            | Null              |  |
|                        | EQUI 229        | Null              | Distillation Unit #4       | Custom           | Custom  | 175                 | gallons/minutes           | Ethanol                                | 7/13/1997               | 8/17/1998            | Null              |  |
|                        | EQUI 230        | Null              | Distillation Unit #5       | Custom           | Custom  | 400                 | gallons/minutes           | Beer                                   | TBD                     | TBD                  | Null              |  |
|                        | EQUI 231        | Null              | Distillation Unit #6       | Custom           | Custom  | 400                 | gallons/minutes           | Beer                                   | TBD                     | TBD                  | Null              |  |
| Elevator               | EQUI 2          | EU002             | Grain Receiving Elevator 1 | Schlagel         | 36167LP | 420                 | tons/hours                | Grain                                  | 7/13/1997               | 8/1/1998             | Null              |  |
|                        | EQUI 8          | EU017             | DDGS Loadout Elevator      | Schlagel         | 30167   | 184                 | tons/hours                | Distiller's Dried Grains With Solubles | 7/13/1997               | 8/17/1998            | Null              |  |
|                        | EQUI 15         | EU039             | Grain Receiving Elevator 2 | Schlagel         | 36137   | 210                 | tons/hours                | Grain                                  | 4/1/2001                | 3/1/2002             | Null              |  |
|                        | EQUI 189        | Null              | Grain Receiving Elevator 3 | Schlagel         | 42208   | 420                 | tons/hours                | Grain                                  | 7/1/2007                | 10/1/2007            | Null              |  |
|                        | EQUI 193        | Null              | Hammermill Feed Elevator   | Schlagel         | 20016-1 | 96                  | tons/hours                | Grain                                  | 7/13/1997               | 8/17/1998            | Null              |  |
| Fermentation Equipment | EQUI 12         | EU035             | Fermenter #6               | Brown-Mpls       | Custom  | 270,000             | gallons/each              | Beer                                   | 4/1/2001                | 3/1/2002             | Null              |  |
|                        | EQUI 54         | EU025             | Fermenter #1               | Brown-Mpls       | Custom  | 270,000             | gallons/each              | Beer                                   | 7/13/1997               | 8/1/1998             | Null              |  |
|                        | EQUI 55         | EU026             | Fermenter #2               | Brown-Mpls       | Custom  | 270,000             | gallons/each              | Beer                                   | 7/13/1997               | 8/1/1998             | Null              |  |
|                        | EQUI 56         | EU027             | Fermenter #7               | Brown-Mpls       | Custom  | 270,000             | gallons/each              | Beer                                   | 7/13/1997               | 8/1/1998             | Null              |  |
|                        | EQUI 57         | EU028             | Beer Well                  | Brown-Mpls       | Custom  | 270,000             | gallons/each              | Beer                                   | 7/13/1997               | 8/1/1998             | Null              |  |

### Emission Units 3

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Type                     | Subject Item ID | Delta Designation | Description                     | Manufacturer     | Model  | Max Design Capacity | Max Design Capacity Units | Material                               | Construction Start Date | Operation Start Date | Modification Date |  |
|-----------------------------|-----------------|-------------------|---------------------------------|------------------|--------|---------------------|---------------------------|----------------------------------------|-------------------------|----------------------|-------------------|--|
| Fermentation Equipment      | EQUI 58         | EU032             | Fermenter #3                    | Brown-Mpls       | Custom | 270,000             | gallons/each              | Beer                                   | 4/1/2001                | 3/1/2002             | Null              |  |
|                             | EQUI 59         | EU033             | Fermenter #4                    | Brown-Mpls       | Custom | 270,000             | gallons/each              | Beer                                   | 4/1/2001                | 3/1/2002             | Null              |  |
|                             | EQUI 60         | EU034             | Fermenter #5                    | Brown-Mpls       | Custom | 270,000             | gallons/each              | Beer                                   | 4/1/2001                | 3/1/2002             | Null              |  |
|                             | EQUI 63         | EU050             | Fermenter #8                    | Advance Tank     | Custom | 270,000             | gallons/each              | Beer                                   | 1/1/2006                | 1/1/2007             | Null              |  |
|                             | EQUI 64         | EU051             | Fermenter #9                    | Advance Tank     | Custom | 270,000             | gallons/each              | Beer                                   | 1/1/2006                | 1/1/2007             | Null              |  |
|                             | EQUI 65         | EU052             | Fermenter #10                   | Advance Tank     | Custom | 270,000             | gallons/each              | Beer                                   | 1/1/2006                | 1/1/2007             | Null              |  |
|                             | EQUI 66         | EU053             | Fermenter #11                   | Advance Tank     | Custom | 270,000             | gallons/each              | Beer                                   | 1/1/2006                | 1/1/2007             | Null              |  |
|                             | EQUI 68         | EU068             | Slurry Tank                     | B&A              | Custom | 7,000               | gallons/each              | Beer                                   | 9/1/1997                | 8/1/1998             | Null              |  |
|                             | EQUI 71         | EU071             | Ethanol Loading Rack #2         | Determan Brownie | Custom | 650                 | gallons/minutes           | Ethanol                                | 4/2/2002                | 8/9/2002             | Null              |  |
|                             | EQUI 205        | Null              | Fermenter #12                   | TBD              | TBD    | 270,000             | gallons/each              | Beer                                   | TBD                     | TBD                  | Null              |  |
|                             | EQUI 206        | Null              | Fermenter #13                   | TBD              | TBD    | 270,000             | gallons/each              | Beer                                   | TBD                     | TBD                  | Null              |  |
|                             | EQUI 217        | Null              | Yeast Tank #2                   | B&A              | Custom | 10,000              | gallons/each              | Beer                                   | 10/31/2001              | 1/1/2002             | Null              |  |
|                             | EQUI 236        | Null              | Fermenter #14                   | TBD              | TBD    | 270,000             | gallons/hours             | Beer                                   | TBD                     | TBD                  | Null              |  |
|                             | EQUI 237        | Null              | Fermenter #15                   | TBD              | TBD    | 270,000             | gallons/hours             | Beer                                   | TBD                     | TBD                  | Null              |  |
| Liquefaction Equipment      | EQUI 69         | EU069             | Yeast Tank #1                   | B&A              | Custom | 10,000              | gallons/each              | Beer                                   | 8/14/1997               | 8/1/1998             | Null              |  |
|                             | EQUI 70         | EU070             | 190 Production Rundown Tank     | B&A              | Custom | 1,400               | gallons/each              | Ethanol                                | 9/18/2001               | 8/1/2002             | Null              |  |
| Loading-Unloading Equipment | EQUI 28         | EU059             | Grain Receiving Pit 2           | Schlagel         | N/A    | 420                 | tons/hours                | Grain                                  | 3/28/2007               | 9/1/2007             | Null              |  |
|                             | EQUI 67         | EU023             | Ethanol Loading Rack #1         | B&A              | Custom | 650                 | gallons/minutes           | Ethanol                                | 7/1/1997                | 8/1/1998             | Null              |  |
|                             | EQUI 179        | EU073             | DDGS Truck Loadout Spout        | POET D&C         | Custom | 0.06                | tons/hours                | Distiller's Dried Grains With Solubles | 7/13/1997               | 8/17/1998            | Null              |  |
|                             | EQUI 202        | Null              | DDGS Portable Container Loadout | Sudenga          | Custom | 47.5                | tons/hours                | Distiller's Dried Grains With Solubles | 11/12/2017              | 1/26/2018            | Null              |  |
| Material Handling Equipment | EQUI 1          | EU001             | Grain Receiving Pit 1           | Schlagel         | NA     | 420                 | tons/hours                | Grain                                  | 7/13/1997               | 8/17/1998            | Null              |  |
|                             | EQUI 177        | EU066             | DDGS Reclaim Pit                | Schlagel         | Custom | 47.5                | tons/hours                | Distiller's Dried Grains With Solubles | 7/13/1997               | 8/17/1998            | Null              |  |

### Emission Units 3

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Type                     | Subject Item ID | Delta Designation | Description                        | Manufacturer     | Model        | Max Design Capacity | Max Design Capacity Units | Material                               | Construction Start Date | Operation Start Date | Modification Date |  |
|-----------------------------|-----------------|-------------------|------------------------------------|------------------|--------------|---------------------|---------------------------|----------------------------------------|-------------------------|----------------------|-------------------|--|
| Material Handling Equipment | EQUI 195        | Null              | Whole Stillage Tank                | B&A              | Custom       | 9,000               | gallons/each              | Material                               | 7/1/1997                | 8/17/1998            | Null              |  |
|                             | EQUI 196        | Null              | Thin Stillage Tank                 | Brown            | Custom       | 200,000             | gallons/each              | Material                               | 9/15/1997               | 8/17/1998            | Null              |  |
|                             | EQUI 197        | Null              | Syrup Tank #1                      | Brown            | Custom       | 50,000              | gallons/each              | Product                                | 10/1/2001               | 1/1/2002             | Null              |  |
|                             | EQUI 211        | Null              | Syrup Tank #2                      | B&A              | Custom       | 20,000              | gallons/each              | Product                                | 7/13/1997               | 8/17/1998            | Null              |  |
|                             | EQUI 225        | Null              | DDGS Storage Building Handling     | NA               | NA           | 47.5                | tons/hours                | Distiller's Dried Grains With Solubles | 9/10/1997               | 8/1/1998             | Null              |  |
| Milling Equipment           | EQUI 24         | EU054             | Hammermill 1                       | Roskamp-Cham..   | HM 54-48     | 24                  | tons/hours                | Grain                                  | 8/15/2006               | 8/22/2006            | Null              |  |
|                             | EQUI 25         | EU055             | Hammermill 2                       | Roskamp-Cham..   | HM 54-48     | 24                  | tons/hours                | Grain                                  | 8/15/2006               | 8/22/2006            | Null              |  |
|                             | EQUI 26         | EU056             | Hammermill 3                       | Roskamp-Cham..   | HM 54-48     | 24                  | tons/hours                | Grain                                  | 8/15/2006               | 8/22/2006            | Null              |  |
|                             | EQUI 27         | EU057             | Hammermill 4                       | Roskamp-Cham..   | HM 54-48     | 24                  | tons/hours                | Grain                                  | 8/15/2006               | 8/22/2006            | Null              |  |
|                             | EQUI 234        | Null              | Hammermill 5                       | TBD              | TBD          | 24                  | tons/hours                | Grain                                  | TBD                     | TBD                  | Null              |  |
| Other Emission Unit         | EQUI 3          | EU003             | Scalper                            | Baasch and Sons  | Custom       | 420                 | tons/hours                | Grain                                  | 7/13/1997               | 8/1/1998             | Null              |  |
|                             | EQUI 5          | EU013             | DDGS Storage Building              | N/A              | N/A          | 495,000             | cubic feet/each           | Distiller's Dried Grains With Solubles | 9/10/1997               | 8/1/1998             | Null              |  |
| Rolling Equipment           | EQUI 33         | EU064             | Hi-Roller Bin Unloading Conveyor 1 | Hi Roller        | 2421-340-22B | 420                 | tons/hours                | Grain                                  | 7/1/2007                | 10/1/2007            | Null              |  |
| Separation Equipment        | EQUI 4          | EU012             | Molecular Sieves #1                | Nova Fabricating | Custom       | 50                  | gallons/minutes           | Ethanol                                | 7/13/1997               | 8/17/1998            | Null              |  |
|                             | EQUI 83         | EU048             | DDG Separating Cyclone             | Kleespie         | Custom       | 28                  | tons/hours                | Distiller's Dried Grains With Solubles | 7/1/1997                | 8/17/1998            | Null              |  |
|                             | EQUI 194        | Null              | Molecular Sieves #2                | Midwest Tank Co  | Custom       | 175                 | gallons/minutes           | Ethanol                                | 9/21/2001               | 7/1/2002             | Null              |  |
|                             | EQUI 203        | Null              | Corn Oil System                    | POET D&C         | Custom       | 62,550              | gallons/minutes           | Product                                | 1/12/2012               | 8/15/2013            | Null              |  |
|                             | EQUI 204        | Null              | Flour Receiver                     | TBD              | TBD          | 96                  | tons/hours                | Grain                                  | TBD                     | TBD                  | Null              |  |
|                             | EQUI 213        | EU041             | Flour Receiver                     | MAC              | 395960       | 96                  | tons/hours                | Grain                                  | 7/16/2001               | 7/16/2001            | Null              |  |
|                             | EQUI 214        | Null              | Centrifuge 1                       | Sharples         | PM75000      | 300                 | gallons/minutes           | Material                               | 10/24/1997              | 9/17/1998            | Null              |  |
|                             | EQUI 215        | Null              | Centrifuge 2                       | Alfa Laval       | NX-706       | 450                 | gallons/minutes           | Material                               | 6/27/2006               | 9/1/2007             | Null              |  |
|                             | EQUI 216        | Null              | Centrifuge 3                       | Alfa Laval       | NX-706       | 450                 | gallons/minutes           | Material                               | 6/27/2006               | 9/1/2007             | Null              |  |

## Emission Units 3

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Type             | Subject Item ID | Delta Designation | Description             | Manufacturer     | Model  | Max Design Capacity | Max Design Capacity Units | Material                               | Construction Start Date | Operation Start Date | Modification Date |  |
|---------------------|-----------------|-------------------|-------------------------|------------------|--------|---------------------|---------------------------|----------------------------------------|-------------------------|----------------------|-------------------|--|
| Silo/Bin            | EQUI 11         | EU031             | DDGS Silo               | Laidig           | Custom | 3,000               | tons/each                 | Distiller's Dried Grains With Solubles | 4/1/2001                | 3/1/2002             | Null              |  |
|                     | EQUI 29         | EU060             | Grain Storage Bin 7     | Behlen           | Custom | 650,400             | bushels/each              | Grain                                  | 3/28/2007               | 9/1/2007             | Null              |  |
|                     | EQUI 30         | EU061             | Grain Storage Bin 8     | Behlen           | Custom | 650,400             | bushels/each              | Grain                                  | 3/28/2007               | 9/1/2007             | Null              |  |
|                     | EQUI 31         | EU062             | Grain Storage Bin 9     | Behlen           | Custom | 650,400             | bushels/each              | Grain                                  | 3/28/2007               | 9/1/2007             | Null              |  |
|                     | EQUI 47         | EU004             | Grain Storage Bin 1     | GIS              | Custom | 386,300             | bushels/each              | Grain                                  | 6/1/2001                | 8/1/2001             | Null              |  |
|                     | EQUI 48         | EU005             | Grain Storage Bin 2     | GIS              | Custom | 36,000              | bushels/each              | Grain                                  | 7/13/1997               | 8/1/1998             | Null              |  |
|                     | EQUI 49         | EU006             | Grain Storage Bin 3     | GIS              | Custom | 150,000             | bushels/each              | Grain                                  | 7/13/1997               | 8/1/1998             | Null              |  |
|                     | EQUI 50         | EU007             | Grain Storage Bin 4     | GIS              | Custom | 150,000             | bushels/each              | Grain                                  | 7/13/1997               | 8/1/1998             | Null              |  |
|                     | EQUI 51         | EU030             | Grain Storage Bin 5     | GSI              | Custom | 256,000             | bushels/each              | Grain                                  | 6/1/2001                | 8/1/2001             | Null              |  |
|                     | EQUI 52         | EU049             | Grain Bin 6 (Surge Bin) | GSI              | Custom | 10,000              | bushels/each              | Grain                                  | 6/3/1997                | 8/1/1998             | Null              |  |
|                     |                 |                   |                         |                  |        |                     |                           |                                        |                         |                      |                   |  |
| Stripping Equipment | EQUI 17         | EU042             | Beer Stripper #2        | Nova Fabricating | Custom | 23,040              | gallons/hours             | Beer                                   | 4/1/2001                | 3/1/2002             | Null              |  |
|                     | EQUI 53         | EU009             | Beer Stripper #1        | Nova Fabricating | Custom | 19,020              | gallons/hours             | Beer                                   | 8/1/1997                | 8/1/1998             | Null              |  |
|                     | EQUI 62         | EU044             | Side Stripper           | Nova Fabricating | Custom | 6,420               | gallons/hours             | Ethanol                                | 4/1/2001                | 3/1/2002             | Null              |  |
|                     | EQUI 207        | Null              | Beer Stripper #3        | TBD              | TBD    | 24,000              | gallons/hours             | Beer                                   | TBD                     | TBD                  | Null              |  |

# Component Groups

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item ID | Delta Designation | Description               | Group Member ID |  |
|-----------------|-------------------|---------------------------|-----------------|--|
| COMG 4          | GP001             | Boiler and Dryer Fuel Use | EQUI 9          |  |
|                 |                   |                           | EQUI 14         |  |
|                 |                   |                           | EQUI 20         |  |
|                 |                   |                           | EQUI 61         |  |
|                 |                   |                           | STRU 1          |  |
|                 |                   |                           | STRU 22         |  |
|                 |                   |                           | STRU 34         |  |
|                 |                   |                           | STRU 57         |  |
| COMG 12         | Null              | Grain Milling             | STRU 29         |  |
|                 |                   |                           | STRU 30         |  |
|                 |                   |                           | STRU 31         |  |
|                 |                   |                           | STRU 32         |  |
|                 |                   |                           | STRU 58         |  |
| COMG 13         | Null              | HAP Limit                 | EQUI 9          |  |
|                 |                   |                           | EQUI 14         |  |
|                 |                   |                           | STRU 1          |  |
|                 |                   |                           | STRU 8          |  |
|                 |                   |                           | STRU 13         |  |
|                 |                   |                           | STRU 20         |  |
|                 |                   |                           | STRU 22         |  |
|                 |                   |                           | STRU 34         |  |
|                 |                   |                           | STRU 57         |  |
|                 |                   |                           | TREA 14         |  |
|                 |                   |                           | TREA 17         |  |
|                 |                   |                           | TREA 19         |  |
|                 |                   |                           | TREA 25         |  |
|                 |                   |                           | TREA 27         |  |
| COMG 14         | Null              | Fermentation Scrubber     | EQUI 12         |  |
|                 |                   |                           | EQUI 54         |  |
|                 |                   |                           | EQUI 55         |  |
|                 |                   |                           | EQUI 56         |  |
|                 |                   |                           | EQUI 57         |  |
|                 |                   |                           | EQUI 58         |  |
|                 |                   |                           | EQUI 59         |  |
|                 |                   |                           | EQUI 60         |  |
|                 |                   |                           | EQUI 63         |  |
|                 |                   |                           | EQUI 64         |  |
|                 |                   |                           | EQUI 65         |  |
|                 |                   |                           | EQUI 66         |  |

# Component Groups

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item ID | Delta Designation | Description           | Group Member ID |  |
|-----------------|-------------------|-----------------------|-----------------|--|
| COMG 14         | Null              | Fermentation Scrubber | EQUI 205        |  |
|                 |                   |                       | EQUI 206        |  |
|                 |                   |                       | EQUI 236        |  |
|                 |                   |                       | EQUI 237        |  |
|                 |                   |                       | STRU 8          |  |
| COMG 15         | Null              | Distillation Scrubber | EQUI 4          |  |
|                 |                   |                       | EQUI 6          |  |
|                 |                   |                       | EQUI 13         |  |
|                 |                   |                       | EQUI 17         |  |
|                 |                   |                       | EQUI 53         |  |
|                 |                   |                       | EQUI 62         |  |
|                 |                   |                       | EQUI 68         |  |
|                 |                   |                       | EQUI 69         |  |
|                 |                   |                       | EQUI 70         |  |
|                 |                   |                       | EQUI 194        |  |
|                 |                   |                       | EQUI 207        |  |
|                 |                   |                       | EQUI 217        |  |
|                 |                   |                       | EQUI 226        |  |
|                 |                   |                       | EQUI 227        |  |
|                 |                   |                       | EQUI 228        |  |
|                 |                   |                       | EQUI 229        |  |
|                 |                   |                       | EQUI 230        |  |
| COMG 16         | Null              | NSPS DD               | EQUI 231        |  |
|                 |                   |                       | STRU 13         |  |
|                 |                   |                       | EQUI 1          |  |
|                 |                   |                       | EQUI 2          |  |
|                 |                   |                       | EQUI 3          |  |
|                 |                   |                       | EQUI 16         |  |
|                 |                   |                       | EQUI 28         |  |
|                 |                   |                       | EQUI 32         |  |
|                 |                   |                       | EQUI 33         |  |
|                 |                   |                       | EQUI 180        |  |
|                 |                   |                       | EQUI 181        |  |
|                 |                   |                       | EQUI 182        |  |
|                 |                   |                       | EQUI 183        |  |
|                 |                   |                       | EQUI 184        |  |
|                 |                   |                       | EQUI 185        |  |
|                 |                   |                       | EQUI 186        |  |
|                 |                   |                       | EQUI 187        |  |

# Component Groups

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item ID | Delta Designation | Description           | Group Member ID |  |
|-----------------|-------------------|-----------------------|-----------------|--|
| COMG 16         | Null              | NSPS DD               | EQUI 188        |  |
|                 |                   |                       | EQUI 189        |  |
|                 |                   |                       | EQUI 190        |  |
|                 |                   |                       | EQUI 191        |  |
| COMG 17         | Null              | DDGS Silo             | EQUI 11         |  |
|                 |                   |                       | EQUI 83         |  |
|                 |                   |                       | EQUI 198        |  |
|                 |                   |                       | STRU 17         |  |
| COMG 18         | Null              | Grain Handling Pit #1 | EQUI 1          |  |
|                 |                   |                       | EQUI 2          |  |
|                 |                   |                       | EQUI 3          |  |
|                 |                   |                       | EQUI 15         |  |
|                 |                   |                       | EQUI 16         |  |
|                 |                   |                       | EQUI 47         |  |
|                 |                   |                       | EQUI 48         |  |
|                 |                   |                       | EQUI 49         |  |
|                 |                   |                       | EQUI 50         |  |
|                 |                   |                       | EQUI 51         |  |
|                 |                   |                       | EQUI 52         |  |
|                 |                   |                       | EQUI 180        |  |
|                 |                   |                       | EQUI 181        |  |
|                 |                   |                       | EQUI 182        |  |
|                 |                   |                       | EQUI 183        |  |
|                 |                   |                       | EQUI 184        |  |
|                 |                   |                       | EQUI 185        |  |
|                 |                   |                       | EQUI 186        |  |
|                 |                   |                       | EQUI 187        |  |
|                 |                   |                       | STRU 33         |  |
| COMG 19         | Null              | Receiving Pit #2      | EQUI 28         |  |
|                 |                   |                       | EQUI 29         |  |
|                 |                   |                       | EQUI 30         |  |
|                 |                   |                       | EQUI 31         |  |
|                 |                   |                       | EQUI 32         |  |
|                 |                   |                       | EQUI 33         |  |
|                 |                   |                       | EQUI 188        |  |
|                 |                   |                       | EQUI 189        |  |
|                 |                   |                       | EQUI 190        |  |
|                 |                   |                       | EQUI 191        |  |
|                 |                   |                       | STRU 23         |  |

# Component Groups

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item ID | Delta Designation | Description               | Group Member ID |  |
|-----------------|-------------------|---------------------------|-----------------|--|
| COMG 20         | Null              | Centrifuges to Atmosphere | EQUI 214        |  |
|                 |                   |                           | EQUI 215        |  |
|                 |                   |                           | EQUI 216        |  |
|                 |                   |                           | STRU 41         |  |
| COMG 21         | Null              | 3-Chambered RTO           | EQUI 12         |  |
|                 |                   |                           | EQUI 20         |  |
|                 |                   |                           | EQUI 54         |  |
|                 |                   |                           | EQUI 55         |  |
|                 |                   |                           | EQUI 56         |  |
|                 |                   |                           | EQUI 57         |  |
|                 |                   |                           | EQUI 58         |  |
|                 |                   |                           | EQUI 59         |  |
|                 |                   |                           | EQUI 60         |  |
|                 |                   |                           | EQUI 61         |  |
|                 |                   |                           | EQUI 63         |  |
|                 |                   |                           | EQUI 64         |  |
|                 |                   |                           | EQUI 65         |  |
|                 |                   |                           | EQUI 66         |  |
|                 |                   |                           | EQUI 195        |  |
|                 |                   |                           | EQUI 196        |  |
|                 |                   |                           | EQUI 197        |  |
|                 |                   |                           | EQUI 203        |  |
|                 |                   |                           | EQUI 205        |  |
|                 |                   |                           | EQUI 206        |  |
|                 |                   |                           | EQUI 211        |  |
|                 |                   |                           | EQUI 214        |  |
|                 |                   |                           | EQUI 215        |  |
|                 |                   |                           | EQUI 216        |  |
|                 |                   |                           | EQUI 236        |  |
|                 |                   |                           | EQUI 237        |  |
|                 |                   |                           | STRU 22         |  |
| COMG 22         | Null              | RTO 2                     | EQUI 12         |  |
|                 |                   |                           | EQUI 20         |  |
|                 |                   |                           | EQUI 54         |  |
|                 |                   |                           | EQUI 55         |  |
|                 |                   |                           | EQUI 56         |  |
|                 |                   |                           | EQUI 57         |  |
|                 |                   |                           | EQUI 58         |  |
|                 |                   |                           | EQUI 59         |  |



# Component Groups

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item ID | Delta Designation | Description   | Group Member ID |  |
|-----------------|-------------------|---------------|-----------------|--|
| COMG 22         | Null              | RTO 2         | EQUI 60         |  |
|                 |                   |               | EQUI 61         |  |
|                 |                   |               | EQUI 63         |  |
|                 |                   |               | EQUI 64         |  |
|                 |                   |               | EQUI 65         |  |
|                 |                   |               | EQUI 66         |  |
|                 |                   |               | EQUI 195        |  |
|                 |                   |               | EQUI 196        |  |
|                 |                   |               | EQUI 197        |  |
|                 |                   |               | EQUI 203        |  |
|                 |                   |               | EQUI 205        |  |
|                 |                   |               | EQUI 206        |  |
|                 |                   |               | EQUI 211        |  |
|                 |                   |               | EQUI 214        |  |
|                 |                   |               | EQUI 215        |  |
|                 |                   |               | EQUI 216        |  |
|                 |                   |               | EQUI 236        |  |
|                 |                   |               | EQUI 237        |  |
|                 |                   |               | STRU 57         |  |
| COMG 23         | Null              | Hammermill #1 | EQUI 24         |  |
|                 |                   |               | EQUI 96         |  |
|                 |                   |               | EQUI 97         |  |
|                 |                   |               | EQUI 193        |  |
|                 |                   |               | EQUI 220        |  |
|                 |                   |               | EQUI 233        |  |
|                 |                   |               | STRU 29         |  |
| COMG 24         | Null              | Hammermill #2 | EQUI 25         |  |
|                 |                   |               | EQUI 96         |  |
|                 |                   |               | EQUI 97         |  |
|                 |                   |               | EQUI 193        |  |
|                 |                   |               | EQUI 220        |  |
|                 |                   |               | EQUI 233        |  |
|                 |                   |               | STRU 29         |  |
| COMG 25         | Null              | Hammermill #3 | EQUI 26         |  |
|                 |                   |               | EQUI 96         |  |
|                 |                   |               | EQUI 97         |  |
|                 |                   |               | EQUI 193        |  |
|                 |                   |               | EQUI 222        |  |
|                 |                   |               | EQUI 233        |  |

# Component Groups

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| Subject Item ID | Delta Designation | Description   | Group Member ID |  |
|-----------------|-------------------|---------------|-----------------|--|
| COMG 25         | Null              | Hammermill #3 | STRU 31         |  |
| COMG 26         | Null              | Hammermill #4 | EQUI 27         |  |
|                 |                   |               | EQUI 96         |  |
|                 |                   |               | EQUI 97         |  |
|                 |                   |               | EQUI 193        |  |
|                 |                   |               | EQUI 223        |  |
|                 |                   |               | EQUI 233        |  |
|                 |                   |               | STRU 32         |  |
| COMG 27         | Null              | Hammermill #5 | EQUI 233        |  |
|                 |                   |               | EQUI 234        |  |
|                 |                   |               | EQUI 235        |  |
|                 |                   |               | STRU 58         |  |

PTE by SI

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category     | SI Type             | Subject Item ID | Delta Designation | Description               | Pollutant                      | Potential (lbs/hr) | Unrestricted Potential (tons/yr) | Potential Limited (tons/yr) | Actual Emissions (tons/yr) |
|-----------------|---------------------|-----------------|-------------------|---------------------------|--------------------------------|--------------------|----------------------------------|-----------------------------|----------------------------|
| Component Group | Air Component Group | COMG 4          | GP001             | Boiler and Dryer Fuel Use | Carbon Monoxide                | 0                  | 0                                | 0                           |                            |
|                 |                     |                 |                   |                           | Nitrogen Oxides                | 0                  | 0                                | 0                           |                            |
|                 |                     |                 |                   |                           | Particulate Matter             | 0                  | 0                                | 0                           |                            |
|                 |                     |                 |                   |                           | PM < 10 micron                 | 0                  | 0                                | 0                           |                            |
|                 |                     |                 |                   |                           | Sulfur Dioxide                 | 0                  | 0                                | 0                           |                            |
|                 |                     |                 |                   |                           | Volatile Organic Compounds     | 0                  | 0                                | 0                           |                            |
|                 |                     | COMG 14         | Null              | Fermentation Scrubber     | Acetaldehyde                   | 0.41               | 0.68                             | 0.1                         |                            |
|                 |                     |                 |                   |                           | Acrolein                       | 0.05               | 0.07                             | 0.01                        |                            |
|                 |                     |                 |                   |                           | Carbon Dioxide                 | 57,445             | 251,610                          | 251,610                     |                            |
|                 |                     |                 |                   |                           | Carbon Dioxide Equivalent      | 57,445             | 251,610                          | 251,610                     |                            |
|                 |                     |                 |                   |                           | Formaldehyde                   | 0.01               | 0.05                             | 0.002                       |                            |
|                 |                     |                 |                   |                           | HAPs - Total                   | 0.51               | 1.72                             | 0.12                        |                            |
|                 |                     |                 |                   |                           | Methanol                       | 0.05               | 0.92                             | 0.01                        |                            |
|                 |                     |                 |                   |                           | Volatile Organic Compounds     | 12                 | 545.45                           | 3                           |                            |
|                 |                     | COMG 15         | Null              | Distillation Scrubber     | Acetaldehyde                   | 0.03               | 0.93                             | 0.14                        |                            |
|                 |                     |                 |                   |                           | Acrolein                       | 0.00123            | 0.01                             | 0.01                        |                            |
|                 |                     |                 |                   |                           | Formaldehyde                   | 0.000789           | 0.02                             | 0.003                       |                            |
|                 |                     |                 |                   |                           | HAPs - Total                   | 0.033              | 1.05                             | 0.15                        |                            |
|                 |                     |                 |                   |                           | Methanol                       | 0.001              | 0.1                              | 0.004                       |                            |
|                 |                     | COMG 17         | Null              | DDGS Silo                 | Volatile Organic Compounds     | 1.5                | 131.4                            | 6.57                        |                            |
|                 |                     |                 |                   |                           | Acetaldehyde                   | 0.02               | 0.09                             | 0.07                        |                            |
|                 |                     |                 |                   |                           | Acrolein                       | 0.02               | 0.08                             | 0.06                        |                            |
|                 |                     |                 |                   |                           | Carbon disulfide               | 0.01               | 0.04                             | 0.04                        |                            |
|                 |                     |                 |                   |                           | Carbonyl sulfide               | 0.01               | 0.03                             | 0.03                        |                            |
|                 |                     |                 |                   |                           | Formaldehyde                   | 0.002              | 0.02                             | 0.01                        |                            |
|                 |                     |                 |                   |                           | HAPs - Total                   | 0.08               | 0.35                             | 0.29                        |                            |
|                 |                     |                 |                   |                           | Methanol                       | 0.02               | 0.1                              | 0.08                        |                            |
|                 |                     |                 |                   |                           | Particulate Matter             | 0.07               | 30.03                            | 0.3                         |                            |
|                 |                     |                 |                   |                           | PM < 2.5 micron                | 0.07               | 4.29                             | 0.3                         |                            |
|                 |                     |                 |                   |                           | PM < 10 micron                 | 0.07               | 4.29                             | 0.3                         |                            |
|                 |                     |                 |                   |                           | Sulfur Dioxide                 | 0.02               | 0.1                              | 0.1                         |                            |
|                 |                     |                 |                   |                           | Volatile Organic Compounds     | 0.18               | 1.02                             | 0.81                        |                            |
|                 |                     | COMG 18         | Null              | Grain Handling Pit #1     | Particulate Matter             | 6.88               | 164.03                           | 4.19                        |                            |
|                 |                     |                 |                   |                           | PM < 2.5 micron                | 0.56               | 20.75                            | 1.15                        |                            |
|                 |                     |                 |                   |                           | PM < 10 micron                 | 2.18               | 27.88                            | 1.93                        |                            |
|                 |                     | COMG 19         | Null              | Receiving Pit #2          | Particulate Matter             | 9.1                | 173.66                           | 4.55                        |                            |
|                 |                     |                 |                   |                           | PM < 2.5 micron                | 0.75               | 21.23                            | 1.51                        |                            |
|                 |                     |                 |                   |                           | PM < 10 micron                 | 2.9                | 30.67                            | 2.29                        |                            |
|                 |                     | COMG 20         | Null              | Centrifuges to Atmosphere | Acetaldehyde                   | 0.22               | 0.96                             | 0.06                        |                            |
|                 |                     |                 |                   |                           | Acrolein                       | 0.01               | 0.06                             | 0.004                       |                            |
|                 |                     |                 |                   |                           | Formaldehyde                   | 0.003              | 0.01                             | 0.001                       |                            |
|                 |                     |                 |                   |                           | HAPs - Total                   | 0.24               | 1.05                             | 0.07                        |                            |
|                 |                     |                 |                   |                           | Methanol                       | 0.01               | 0.02                             | 0.001                       |                            |
|                 |                     | COMG 21         | Null              | 3-Chambered RTO           | Volatile Organic Compounds     | 2.61               | 11.42                            | 0.65                        |                            |
|                 |                     |                 |                   |                           | 1,4-Dichlorobenzene (para-)    | 2.74e-05           | 0.000639                         | 0.00012                     |                            |
|                 |                     |                 |                   |                           | 2-Methylnaphthalene            | 5.48e-07           | 1.28e-05                         | 2.4e-06                     |                            |
|                 |                     |                 |                   |                           | 3-Methylcholanthrene           | 4.11e-08           | 9.58e-07                         | 1.8e-07                     |                            |
|                 |                     |                 |                   |                           | 7,12-Dimethylbenz[a]anthracene | 3.65e-08           | 8.52e-07                         | 1.6e-07                     |                            |
|                 |                     |                 |                   |                           | Acenaphthene                   | 4.11e-08           | 9.58e-07                         | 1.8e-07                     |                            |
|                 |                     |                 |                   |                           | Acenaphthylene                 | 4.11e-08           | 9.58e-07                         | 1.8e-07                     |                            |
|                 |                     |                 |                   |                           | Acetaldehyde                   | 1.04               | 90.7                             | 4.53                        |                            |
|                 |                     |                 |                   |                           | Acrolein                       | 0.154              | 13.5                             | 0.674                       |                            |
|                 |                     |                 |                   |                           | Anthracene                     | 5.48e-08           | 1.28e-07                         | 2.4e-07                     |                            |
|                 |                     |                 |                   |                           | Arsenic compounds              | 2.43e-05           | 0.000106                         | 0.000106                    |                            |
|                 |                     |                 |                   |                           | Benzene                        | 4.8e-05            | 0.00112                          | 0.00021                     |                            |
|                 |                     |                 |                   |                           | Benzo(a)anthracene             | 4.11e-08           | 9.58e-07                         | 1.8e-07                     |                            |
|                 |                     |                 |                   |                           | Benzo(b)fluoranthene           | 4.11e-08           | 9.58e-07                         | 1.8e-07                     |                            |
|                 |                     |                 |                   |                           | Benzo(ghi)perylene             | 2.74e-08           | 6.39e-07                         | 1.2e-07                     |                            |
|                 |                     |                 |                   |                           | Benzo(k)fluoranthene           | 4.11e-08           | 9.58e-07                         | 1.8e-07                     |                            |
|                 |                     |                 |                   |                           | Benzo[a]pyrene                 | 2.74e-08           | 6.39e-07                         | 1.2e-07                     |                            |
|                 |                     |                 |                   |                           | Beryllium                      | 1.46e-06           | 6.39e-06                         | 6.39e-06                    |                            |
|                 |                     |                 |                   |                           | Cadmium compounds              | 0.000134           | 0.000586                         | 0.000586                    |                            |
|                 |                     |                 |                   |                           | Carbon Dioxide Equivalent      | 14,500             | 63,500                           | 63,500                      |                            |
|                 |                     |                 |                   |                           | Carbon Monoxide                | 13.1               | 574                              | 57.4                        |                            |
|                 |                     |                 |                   |                           | Chromium compounds             | 0.00017            | 0.000745                         | 0.000745                    |                            |
|                 |                     |                 |                   |                           | Chrysene                       | 4.11e-08           | 9.58e-07                         | 1.8e-07                     |                            |
|                 |                     |                 |                   |                           | Cobalt compounds               | 1.02e-05           | 4.47e-05                         | 4.47e-05                    |                            |
|                 |                     |                 |                   |                           | Dibenz[a,h]anthracene          | 2.74e-08           | 6.39e-07                         | 1.2e-07                     |                            |
|                 |                     |                 |                   |                           | Fluoranthene                   | 6.85e-08           | 1.6e-06                          | 3e-07                       |                            |
|                 |                     |                 |                   |                           | Fluorene                       | 6.4e-08            | 1.49e-06                         | 2.8e-07                     |                            |
|                 |                     |                 |                   |                           | Formaldehyde                   | 0.6                | 52.6                             | 2.63                        |                            |
|                 |                     |                 |                   |                           | HAPs - Total                   | 2.1                | 181.52                           | 9.21                        |                            |
|                 |                     |                 |                   |                           | Hexane                         | 0.0411             | 0.958                            | 0.18                        |                            |
|                 |                     |                 |                   |                           | Indeno(1,2,3-cd)pyrene         | 4.11e-08           | 9.58e-07                         | 1.8e-07                     |                            |
|                 |                     |                 |                   |                           | Lead                           | 6.08e-05           | 0.000266                         | 0.000266                    |                            |

PTE by SI

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category     | SI Type             | Subject Item ID | Delta Designation | Description     | Pollutant                      | Potential (lbs/hr) | Unrestricted Potential (tons/yr) | Potential Limited (tons/yr) | Actual Emissions (tons/yr) |
|-----------------|---------------------|-----------------|-------------------|-----------------|--------------------------------|--------------------|----------------------------------|-----------------------------|----------------------------|
| Component Group | Air Component Group | COMG 21         | Null              | 3-Chambered RTO | Manganese compounds            | 4.62e-05           | 0.000202                         | 0.000202                    |                            |
|                 |                     |                 |                   |                 | Mercury                        | 3.16e-05           | 0.000138                         | 0.000138                    |                            |
|                 |                     |                 |                   |                 | Methanol                       | 0.185              | 16.2                             | 0.808                       |                            |
|                 |                     |                 |                   |                 | Naphthalene                    | 1.39e-05           | 0.000325                         | 6.1e-05                     |                            |
|                 |                     |                 |                   |                 | Nickel compounds               | 2.55e-05           | 0.00112                          | 0.00112                     |                            |
|                 |                     |                 |                   |                 | Nitrogen Oxides                | 12                 | 52.4                             | 52.4                        |                            |
|                 |                     |                 |                   |                 | Particulate Matter             | 13.5               | 296                              | 59.1                        |                            |
|                 |                     |                 |                   |                 | Phenanthrene                   | 3.88e-07           | 9.05e-06                         | 1.7e-06                     |                            |
|                 |                     |                 |                   |                 | PM < 2.5 micron                | 13.5               | 296                              | 59.1                        |                            |
|                 |                     |                 |                   |                 | PM < 10 micron                 | 13.5               | 296                              | 59.1                        |                            |
|                 |                     |                 |                   |                 | Pyrene                         | 1.14e-07           | 2.66e-06                         | 5e-07                       |                            |
|                 |                     |                 |                   |                 | Selenium compounds             | 3.04e-06           | 1.33e-05                         | 1.33e-05                    |                            |
|                 |                     |                 |                   |                 | Sulfur Dioxide                 | 50                 | 219                              | 219                         |                            |
|                 |                     |                 |                   |                 | Toluene                        | 7.77e-05           | 0.00181                          | 0.00034                     |                            |
|                 |                     |                 |                   |                 | Volatile Organic Compounds     | 12                 | 263                              | 52.6                        |                            |
|                 |                     | COMG 22         | Null              | RTO 2           | 1,4-Dichlorobenzene (para-)    | 4.15e-05           | 0.000701                         | 0.000182                    |                            |
|                 |                     |                 |                   |                 | 2-Methylnaphthalene            | 8.31e-07           | 1.4e-05                          | 3.64e-06                    |                            |
|                 |                     |                 |                   |                 | 3-Methylcholanthrene           | 6.23e-08           | 1.05e-06                         | 2.73e-07                    |                            |
|                 |                     |                 |                   |                 | 7,12-Dimethylbenz[a]anthracene | 5.44e-08           | 9.34e-07                         | 2.43e-07                    |                            |
|                 |                     |                 |                   |                 | Acenaphthene                   | 6.23e-08           | 1.05e-06                         | 2.73e-07                    |                            |
|                 |                     |                 |                   |                 | Acenaphthylene                 | 6.23e-08           | 1.05e-06                         | 2.73e-07                    |                            |
|                 |                     |                 |                   |                 | Acetaldehyde                   | 1.04               | 90.7                             | 4.53                        |                            |
|                 |                     |                 |                   |                 | Acrolein                       | 0.154              | 13.5                             | 0.674                       |                            |
|                 |                     |                 |                   |                 | Anthracene                     | 8.31e-08           | 1.4e-06                          | 3.64e-07                    |                            |
|                 |                     |                 |                   |                 | Arsenic compounds              | 2.67e-05           | 0.000117                         | 0.000117                    |                            |
|                 |                     |                 |                   |                 | Benzene                        | 7.27e-05           | 0.00123                          | 0.000318                    |                            |
|                 |                     |                 |                   |                 | Benzo(a)anthracene             | 6.23e-08           | 1.05e-06                         | 2.73e-07                    |                            |
|                 |                     |                 |                   |                 | Benzo(b)fluoranthene           | 6.23e-08           | 1.05e-06                         | 2.7e-07                     |                            |
|                 |                     |                 |                   |                 | Benzo(ghi)perylene             | 4.15e-08           | 7.01e-07                         | 1.82e-07                    |                            |
|                 |                     |                 |                   |                 | Benzo(k)fluoranthene           | 6.23e-08           | 1.05e-06                         | 2.73e-07                    |                            |
|                 |                     |                 |                   |                 | Benzo[a]pyrene                 | 4.15e-08           | 7.01e-07                         | 1.82e-07                    |                            |
|                 |                     |                 |                   |                 | Beryllium                      | 1.6e-06            | 7.01e-06                         | 7.01e-06                    |                            |
|                 |                     |                 |                   |                 | Cadmium compounds              | 0.000147           | 0.000642                         | 0.000642                    |                            |
|                 |                     |                 |                   |                 | Carbon Dioxide                 | 15,900             | 69,600                           | 69,600                      |                            |
|                 |                     |                 |                   |                 | Carbon Dioxide Equivalent      | 15,900             | 69,700                           | 69,700                      |                            |
|                 |                     |                 |                   |                 | Carbon Monoxide                | 13.1               | 574                              | 57.4                        |                            |
|                 |                     |                 |                   |                 | Chromium compounds             | 0.000187           | 0.000818                         | 0.000818                    |                            |
|                 |                     |                 |                   |                 | Chrysene                       | 6.23e-08           | 1.05e-06                         | 2.73e-07                    |                            |
|                 |                     |                 |                   |                 | Cobalt compounds               | 1.12e-05           | 4.91e-05                         | 0.000491                    |                            |
|                 |                     |                 |                   |                 | Dibenz[a,h]anthracene          | 4.15e-08           | 7.01e-07                         | 1.82e-07                    |                            |
|                 |                     |                 |                   |                 | Fluoranthene                   | 1.04e-07           | 1.75e-06                         | 4.55e-07                    |                            |
|                 |                     |                 |                   |                 | Fluorene                       | 9.69e-08           | 1.64e-06                         | 4.24e-07                    |                            |
|                 |                     |                 |                   |                 | Formaldehyde                   | 0.6                | 52.6                             | 2.63                        |                            |
|                 |                     |                 |                   |                 | HAPs - Total                   | 2.13               | 180.55                           | 9.31                        |                            |
|                 |                     |                 |                   |                 | Hexane                         | 0.0623             | 1.05                             | 0.273                       |                            |
|                 |                     |                 |                   |                 | Indeno(1,2,3-cd)pyrene         | 8.23e-08           | 1.05e-06                         | 2.73e-07                    |                            |
|                 |                     |                 |                   |                 | Lead                           | 6.67e-05           | 0.000292                         | 0.000292                    |                            |
|                 |                     |                 |                   |                 | Manganese compounds            | 5.07e-05           | 0.000222                         | 0.000222                    |                            |
|                 |                     |                 |                   |                 | Mercury                        | 3.47e-05           | 0.000152                         | 0.000152                    |                            |
|                 |                     |                 |                   |                 | Methane                        | 0.299              | 1.31                             | 1.31                        |                            |
|                 |                     |                 |                   |                 | Methanol                       | 0.185              | 16.2                             | 0.808                       |                            |
|                 |                     |                 |                   |                 | Naphthalene                    | 2.11e-05           | 0.000356                         | 9.25e-05                    |                            |
|                 |                     |                 |                   |                 | Nickel compounds               | 0.00028            | 0.00123                          | 0.00123                     |                            |
|                 |                     |                 |                   |                 | Nitrogen Oxides                | 12                 | 52.4                             | 52.4                        |                            |
|                 |                     |                 |                   |                 | Nitrous Oxide                  | 0.0299             | 0.131                            | 0.131                       |                            |
|                 |                     |                 |                   |                 | Particulate Matter             | 13.5               | 296                              | 59.1                        |                            |
|                 |                     |                 |                   |                 | Phenanthrene                   | 5.88e-07           | 9.93e-06                         | 2.58e-06                    |                            |
|                 |                     |                 |                   |                 | PM < 2.5 micron                | 13.5               | 296                              | 59.1                        |                            |
|                 |                     |                 |                   |                 | PM < 10 micron                 | 13.5               | 296                              | 59.1                        |                            |
|                 |                     |                 |                   |                 | Pyrene                         | 1.73e-07           | 2.92e-06                         | 7.58e-07                    |                            |
|                 |                     |                 |                   |                 | Selenium compounds             | 3.33e-06           | 1.46e-05                         | 1.46e-05                    |                            |
|                 |                     |                 |                   |                 | Sulfur Dioxide                 | 50                 | 219                              | 219                         |                            |
|                 |                     |                 |                   |                 | Toluene                        | 0.000118           | 0.00199                          | 0.000515                    |                            |
|                 |                     |                 |                   |                 | Volatile Organic Compounds     | 12                 | 2,628                            | 52.56                       |                            |
|                 |                     | COMG 23         | Null              | Hammermill #1   | Particulate Matter             | 0.31               | 135.08                           | 1.35                        |                            |
|                 |                     |                 |                   |                 | PM < 2.5 micron                | 0.31               | 19.3                             | 1.35                        |                            |
|                 |                     |                 |                   |                 | PM < 10 micron                 | 0.31               | 19.3                             | 1.35                        |                            |
|                 |                     | COMG 24         | Null              | Hammermill #2   | Particulate Matter             | 0.31               | 135.08                           | 1.35                        |                            |
|                 |                     |                 |                   |                 | PM < 2.5 micron                | 0.31               | 19.3                             | 1.35                        |                            |
|                 |                     |                 |                   |                 | PM < 10 micron                 | 0.31               | 19.3                             | 1.35                        |                            |
|                 |                     | COMG 25         | Null              | Hammermill #3   | Particulate Matter             | 0.31               | 135.08                           | 1.35                        |                            |
|                 |                     |                 |                   |                 | PM < 2.5 micron                | 0.31               | 19.3                             | 1.35                        |                            |
|                 |                     |                 |                   |                 | PM < 10 micron                 | 0.31               | 19.3                             | 1.35                        |                            |
|                 |                     | COMG 26         | Null              | Hammermill #4   | Particulate Matter             | 0.31               | 135.08                           | 1.35                        |                            |
|                 |                     |                 |                   |                 | PM < 2.5 micron                | 0.31               | 19.3                             | 1.35                        |                            |

PTE by SI

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category     | SI Type                  | Subject Item ID | Delta Designation | Description                             | Pollutant                      | Potential (lbs/hr) | Unrestricted Potential (tons/yr) | Potential Limited (tons/yr) | Actual Emissions (tons/yr) |
|-----------------|--------------------------|-----------------|-------------------|-----------------------------------------|--------------------------------|--------------------|----------------------------------|-----------------------------|----------------------------|
| Component Group | Air Component Group      | COMG 26         | Null              | Hammermill #4                           | PM < 10 micron                 | 0.31               | 19.3                             | 1.35                        |                            |
|                 |                          | COMG 27         | Null              | Hammermill #5                           | Particulate Matter             | 0.31               | 135.08                           | 1.35                        |                            |
|                 |                          |                 |                   |                                         | PM < 2.5 micron                | 0.31               | 19.3                             | 1.35                        |                            |
|                 |                          |                 |                   |                                         | PM < 10 micron                 | 0.31               | 19.3                             | 1.35                        |                            |
| Equipment       | Aboveground Storage Tank | EQUI 34         | TK010             | 200 Proof Ethanol Storage ..            | Volatile Organic Compounds     | 0.105              | 0.462                            | 0.462                       |                            |
|                 |                          | EQUI 35         | TK011             | 200 Proof Ethanol Storage ..            | Volatile Organic Compounds     | 0.0588             | 0.258                            | 0.258                       |                            |
|                 |                          | EQUI 36         | TK006             | 190 Proof Ethanol Storage ..            | Volatile Organic Compounds     | 0.165              | 0.721                            | 0.721                       |                            |
|                 |                          | EQUI 37         | TK012             | 200 Proof Ethanol Storage ..            | Volatile Organic Compounds     | 0.105              | 0.462                            | 0.462                       |                            |
|                 |                          | EQUI 38         | TK013             | Denaturant Tank (T802)                  | Benzene                        | 0.00172            | 0.00754                          | 0.00754                     |                            |
|                 |                          |                 |                   |                                         | HAPs - Total                   | 0.0124             | 0.072                            | 0.072                       |                            |
|                 |                          |                 |                   |                                         | Hexane                         | 0.000428           | 0.00187                          | 0.00187                     |                            |
|                 |                          |                 |                   |                                         | Toluene                        | 0.000428           | 0.00187                          | 0.00187                     |                            |
|                 |                          |                 |                   |                                         | Volatile Organic Compounds     | 0.278              | 1.22                             | 1.22                        |                            |
|                 |                          | EQUI 212        | Null              | Corrosion Inhibitor Storage Tank (T852) | Ethylbenzene                   | 1.03e-05           | 4.5e-05                          | 4.5e-05                     |                            |
|                 |                          |                 |                   |                                         | HAPs - Total                   | 0.00687            | 0.03                             | 0.03                        |                            |
|                 |                          |                 |                   |                                         | Methanol                       | 0.00682            | 0.0299                           | 0.0299                      |                            |
|                 |                          |                 |                   |                                         | Volatile Organic Compounds     | 0.06               | 0.28                             | 0.28                        |                            |
|                 |                          |                 |                   |                                         | Xylenes, Total                 | 4.45e-05           | 0.000195                         | 0.000195                    |                            |
|                 | Boiler                   | EQUI 9          | EU018             | Boiler #1                               | 1,4-Dichlorobenzene (para-)    | 8.63e-05           | 0.000378                         | 0.000378                    |                            |
|                 |                          |                 |                   |                                         | 2-Methylnaphthalene            | 1.73e-06           | 7.56e-06                         | 7.56e-06                    |                            |
|                 |                          |                 |                   |                                         | 3-Methylcholanthrene           | 1.29e-07           | 5.67e-07                         | 5.67e-07                    |                            |
|                 |                          |                 |                   |                                         | 7,12-Dimethylbenz[a]anthracene | 1.15e-07           | 5.04e-07                         | 5.04e-07                    |                            |
|                 |                          |                 |                   |                                         | Acenaphthene                   | 1.29e-07           | 5.67e-07                         | 5.67e-07                    |                            |
|                 |                          |                 |                   |                                         | Acenaphthylene                 | 1.29e-07           | 5.67e-07                         | 5.67e-07                    |                            |
|                 |                          |                 |                   |                                         | Anthracene                     | 1.73e-07           | 7.56e-07                         | 7.56e-07                    |                            |
|                 |                          |                 |                   |                                         | Arsenic compounds              | 1.44e-05           | 6.3e-05                          | 6.3e-05                     |                            |
|                 |                          |                 |                   |                                         | Benzene                        | 0.000151           | 0.000661                         | 0.000661                    |                            |
|                 |                          |                 |                   |                                         | Benzo(a)anthracene             | 1.29e-07           | 5.67e-07                         | 5.67e-07                    |                            |
|                 |                          |                 |                   |                                         | Benzo(b)fluoranthene           | 1.29e-07           | 5.67e-07                         | 5.67e-07                    |                            |
|                 |                          |                 |                   |                                         | Benzo(ghi)perylene             | 8.63e-08           | 3.78e-07                         | 3.78e-07                    |                            |
|                 |                          |                 |                   |                                         | Benzo(k)fluoranthene           | 1.29e-07           | 5.67e-07                         | 5.67e-07                    |                            |
|                 |                          |                 |                   |                                         | Benzo[a]pyrene                 | 6.38e-08           | 3.78e-07                         | 3.78e-07                    |                            |
|                 |                          |                 |                   |                                         | Beryllium                      | 8.63e-07           | 3.78e-06                         | 3.78e-06                    |                            |
|                 |                          |                 |                   |                                         | Cadmium compounds              | 7.91e-05           | 0.000346                         | 0.000346                    |                            |
|                 |                          |                 |                   |                                         | Carbon Dioxide                 | 7,350              | 32,200                           | 32,200                      |                            |
|                 |                          |                 |                   |                                         | Carbon Dioxide Equivalent      | 7,350              | 32,200                           | 32,200                      |                            |
|                 |                          |                 |                   |                                         | Carbon Monoxide                | 5.18               | 22.7                             | 22.7                        |                            |
|                 |                          |                 |                   |                                         | Chromium compounds             | 0.000101           | 0.000441                         | 0.000441                    |                            |
|                 |                          |                 |                   |                                         | Chrysene                       | 1.29e-07           | 5.67e-07                         | 5.67e-07                    |                            |
|                 |                          |                 |                   |                                         | Cobalt compounds               | 6.04e-06           | 2.65e-05                         | 2.65e-05                    |                            |
|                 |                          |                 |                   |                                         | Dibenz[a,h]anthracene          | 8.63e-08           | 3.78e-07                         | 3.78e-07                    |                            |
|                 |                          |                 |                   |                                         | Fluoranthene                   | 2.16e-07           | 9.45e-07                         | 9.45e-07                    |                            |
|                 |                          |                 |                   |                                         | Fluorene                       | 2.01e-07           | 8.82e-07                         | 8.82e-07                    |                            |
|                 |                          |                 |                   |                                         | Formaldehyde                   | 0.00539            | 0.0236                           | 0.0236                      |                            |
|                 |                          |                 |                   |                                         | HAPs - Total                   | 0.14               | 0.59                             | 0.59                        |                            |
|                 |                          |                 |                   |                                         | Hexane                         | 0.129              | 0.567                            | 0.567                       |                            |
|                 |                          |                 |                   |                                         | Indeno(1,2,3-cd)pyrene         | 1.29e-07           | 5.67e-07                         | 5.67e-07                    |                            |
|                 |                          |                 |                   |                                         | Lead                           | 3.6e-05            | 0.000157                         | 0.000157                    |                            |
|                 |                          |                 |                   |                                         | Manganese compounds            | 2.73e-05           | 0.00012                          | 0.00012                     |                            |
|                 |                          |                 |                   |                                         | Mercury                        | 1.87e-05           | 8.19e-05                         | 8.19e-05                    |                            |
|                 |                          |                 |                   |                                         | Methane                        | 0.138              | 0.606                            | 0.606                       |                            |
|                 |                          |                 |                   |                                         | Naphthalene                    | 4.39e-05           | 0.000192                         | 0.000192                    |                            |
|                 |                          |                 |                   |                                         | Nickel compounds               | 0.000151           | 0.000661                         | 0.000661                    |                            |
|                 |                          |                 |                   |                                         | Nitrogen Oxides                | 2.51               | 11                               | 11                          |                            |
|                 |                          |                 |                   |                                         | Particulate Matter             | 0.468              | 2.05                             | 2.05                        |                            |
|                 |                          |                 |                   |                                         | Phenanthrene                   | 1.22e-06           | 5.35e-06                         | 5.35e-06                    |                            |
|                 |                          |                 |                   |                                         | PM < 2.5 micron                | 0.468              | 2.05                             | 2.05                        |                            |
|                 |                          |                 |                   |                                         | PM < 10 micron                 | 0.468              | 2.05                             | 2.05                        |                            |
|                 |                          |                 |                   |                                         | Pyrene                         | 3.6e-07            | 1.57e-06                         | 1.57e-06                    |                            |
|                 |                          |                 |                   |                                         | Selenium compounds             | 1.8e-06            | 7.87e-06                         | 7.87e-06                    |                            |
|                 |                          |                 |                   |                                         | Sulfur Dioxide                 | 0.037              | 0.162                            | 0.162                       |                            |
|                 |                          |                 |                   |                                         | Toluene                        | 0.000244           | 0.00107                          | 0.00107                     |                            |
|                 |                          |                 |                   |                                         | Volatile Organic Compounds     | 0.339              | 1.48                             | 1.48                        |                            |
|                 | EQUI 14                  | EU038           | Boiler #2         |                                         | 1,4-Dichlorobenzene (para-)    | 7.39e-05           | 0.000324                         | 0.000324                    |                            |
|                 |                          |                 |                   |                                         | 2-Methylnaphthalene            | 1.48e-06           | 6.48e-05                         | 6.48e-05                    |                            |
|                 |                          |                 |                   |                                         | 3-Methylcholanthrene           | 1.11e-07           | 4.86e-07                         | 4.86e-07                    |                            |
|                 |                          |                 |                   |                                         | 7,12-Dimethylbenz[a]anthracene | 9.86e-08           | 4.32e-07                         | 4.32e-07                    |                            |
|                 |                          |                 |                   |                                         | Acenaphthene                   | 1.11e-07           | 4.86e-07                         | 4.86e-07                    |                            |
|                 |                          |                 |                   |                                         | Acenaphthylene                 | 1.11e-07           | 4.86e-07                         | 4.86e-07                    |                            |
|                 |                          |                 |                   |                                         | Anthracene                     | 1.48e-07           | 6.48e-07                         | 6.48e-07                    |                            |
|                 |                          |                 |                   |                                         | Arsenic compounds              | 1.23e-05           | 5.4e-05                          | 5.4e-05                     |                            |
|                 |                          |                 |                   |                                         | Benzene                        | 0.000129           | 0.000567                         | 0.000567                    |                            |
|                 |                          |                 |                   |                                         | Benzo(a)anthracene             | 1.11e-07           | 4.86e-07                         | 4.86e-07                    |                            |
|                 |                          |                 |                   |                                         | Benzo(b)fluoranthene           | 1.11e-07           | 4.86e-07                         | 4.86e-07                    |                            |
|                 |                          |                 |                   |                                         | Benzo(ghi)perylene             | 7.39e-08           | 3.24e-07                         | 3.24e-07                    |                            |

PTE by SI

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category | SI Type  | Subject Item ID | Delta Designation | Description                     | Pollutant                  | Potential (lbs/hr) | Unrestricted Potential (tons/yr) | Potential Limited (tons/yr) | Actual Emissions (tons/yr) |
|-------------|----------|-----------------|-------------------|---------------------------------|----------------------------|--------------------|----------------------------------|-----------------------------|----------------------------|
| Equipment   | Boiler   | EQUI 14         | EU038             | Boiler #2                       | Benzo(k)fluoranthene       | 1.11e-07           | 4.86e-07                         | 4.86e-07                    |                            |
|             |          |                 |                   |                                 | Benzo[a]pyrene             | 7.39e-08           | 3.24e-07                         | 3.24e-07                    |                            |
|             |          |                 |                   |                                 | Beryllium                  | 7.39e-07           | 3.24e-06                         | 3.24e-06                    |                            |
|             |          |                 |                   |                                 | Cadmium compounds          | 6.78e-05           | 0.000297                         | 0.000297                    |                            |
|             |          |                 |                   |                                 | Carbon Dioxide             | 8,570              | 37,500                           | 37,500                      |                            |
|             |          |                 |                   |                                 | Carbon Dioxide Equivalent  | 8,580              | 37,600                           | 37,600                      |                            |
|             |          |                 |                   |                                 | Carbon Monoxide            | 6.04               | 26.5                             | 26.5                        |                            |
|             |          |                 |                   |                                 | Chromium compounds         | 8.63e-05           | 0.000378                         | 0.000378                    |                            |
|             |          |                 |                   |                                 | Chrysene                   | 1.11e-07           | 4.86e-07                         | 4.86e-07                    |                            |
|             |          |                 |                   |                                 | Cobalt compounds           | 5.18e-06           | 2.27e-05                         | 2.27e-05                    |                            |
|             |          |                 |                   |                                 | Dibenz[a,h]anthracene      | 7.39e-08           | 3.24e-07                         | 3.24e-07                    |                            |
|             |          |                 |                   |                                 | Fluoranthene               | 1.85e-07           | 8.1e-07                          | 8.1e-07                     |                            |
|             |          |                 |                   |                                 | Fluorene                   | 1.73e-07           | 7.56e-07                         | 7.56e-07                    |                            |
|             |          |                 |                   |                                 | Formaldehyde               | 0.00462            | 0.0202                           | 0.0202                      |                            |
|             |          |                 |                   |                                 | HAPs - Total               | 0.12               | 0.51                             | 0.51                        |                            |
|             |          |                 |                   |                                 | Hexane                     | 0.111              | 0.486                            | 0.486                       |                            |
|             |          |                 |                   |                                 | Indeno(1,2,3-cd)pyrene     | 1.11e-07           | 4.86e-07                         | 4.86e-07                    |                            |
|             |          |                 |                   |                                 | Lead                       | 3.08e-05           | 0.000135                         | 2.27e-05                    |                            |
|             |          |                 |                   |                                 | Manganese compounds        | 2.34e-05           | 0.000103                         | 0.000103                    |                            |
|             |          |                 |                   |                                 | Mercury                    | 1.6e-05            | 7.02e-05                         | 7.02e-05                    |                            |
|             |          |                 |                   |                                 | Methane                    | 0.161              | 0.707                            | 0.0707                      |                            |
|             |          |                 |                   |                                 | Naphthalene                | 3.76e-05           | 0.000165                         | 0.000165                    |                            |
|             |          |                 |                   |                                 | Nickel compounds           | 0.000129           | 0.000567                         | 0.000567                    |                            |
|             |          |                 |                   |                                 | Nitrogen Oxides            | 2.93               | 12.8                             | 12.8                        |                            |
|             |          |                 |                   |                                 | Particulate Matter         | 0.546              | 2.39                             | 2.39                        |                            |
|             |          |                 |                   |                                 | Phenanthrene               | 1.05e-06           | 4.59e-06                         | 4.59e-06                    |                            |
|             |          |                 |                   |                                 | PM < 2.5 micron            | 0.546              | 2.39                             | 2.39                        |                            |
|             |          |                 |                   |                                 | PM < 10 micron             | 0.546              | 2.39                             | 2.39                        |                            |
|             |          |                 |                   |                                 | Pyrene                     | 3.08e-07           | 1.35e-06                         | 1.35e-06                    |                            |
|             |          |                 |                   |                                 | Selenium compounds         | 1.54e-06           | 6.75e-06                         | 6.75e-06                    |                            |
|             |          |                 |                   |                                 | Sulfur Dioxide             | 0.0431             | 0.189                            | 0.189                       |                            |
|             |          |                 |                   |                                 | Toluene                    | 0.00021            | 0.000918                         | 0.000918                    |                            |
|             |          |                 |                   |                                 | Volatile Organic Compounds | 0.395              | 1.73                             | 1.73                        |                            |
|             | Conveyor | EQUI 199        | Null              | DDGS Flat Storage Conveyor      | Acetaldehyde               | 0.016              | 0.133                            | 0.068                       |                            |
|             |          |                 |                   |                                 | Acrolein                   | 0.014              | 0.121                            | 0.061                       |                            |
|             |          |                 |                   |                                 | Formaldehyde               | 0.0027             | 0.024                            | 0.012                       |                            |
|             |          |                 |                   |                                 | HAPs - Total               | 0.05               | 0.428                            | 0.217                       |                            |
|             |          |                 |                   |                                 | Methanol                   | 0.017              | 0.15                             | 0.076                       |                            |
|             |          |                 |                   |                                 | Particulate Matter         | 0.165              | 0.723                            | 0.366                       |                            |
|             |          |                 |                   |                                 | PM < 2.5 micron            | 0.04               | 0.175                            | 0.0888                      |                            |
|             |          |                 |                   |                                 | PM < 10 micron             | 0.04               | 0.175                            | 0.0888                      |                            |
|             |          |                 |                   |                                 | Volatile Organic Compounds | 0.185              | 1.6                              | 0.811                       |                            |
|             |          | EQUI 200        | Null              | DDGS Reclaim Pit Conveyor       | Acetaldehyde               | 0.016              | 0.127                            | 0.068                       |                            |
|             |          |                 |                   |                                 | Acrolein                   | 0.014              | 0.115                            | 0.061                       |                            |
|             |          |                 |                   |                                 | Formaldehyde               | 0.0027             | 0.023                            | 0.012                       |                            |
|             |          |                 |                   |                                 | HAPs - Total               | 0.05               | 0.407                            | 0.217                       |                            |
|             |          |                 |                   |                                 | Methanol                   | 0.017              | 0.142                            | 0.076                       |                            |
|             |          |                 |                   |                                 | Particulate Matter         | 0.157              | 0.687                            | 0.366                       |                            |
|             |          |                 |                   |                                 | PM < 2.5 micron            | 0.038              | 0.166                            | 0.0888                      |                            |
|             |          |                 |                   |                                 | PM < 10 micron             | 0.038              | 0.166                            | 0.0888                      |                            |
|             |          |                 |                   |                                 | Volatile Organic Compounds | 0.19               | 1.522                            | 0.811                       |                            |
|             |          | EQUI 201        | Null              | DDGS Truck Loadout Pit Conveyor | Acetaldehyde               | 0.016              | 0.133                            | 0.068                       |                            |
|             |          |                 |                   |                                 | Acrolein                   | 0.014              | 0.121                            | 0.061                       |                            |
|             |          |                 |                   |                                 | Formaldehyde               | 0.0027             | 0.024                            | 0.012                       |                            |
|             |          |                 |                   |                                 | HAPs - Total               | 0.05               | 0.428                            | 0.217                       |                            |
|             |          |                 |                   |                                 | Methanol                   | 0.017              | 0.15                             | 0.076                       |                            |
|             |          |                 |                   |                                 | Particulate Matter         | 0.165              | 0.723                            | 0.366                       |                            |
|             |          |                 |                   |                                 | PM < 2.5 micron            | 0.04               | 0.175                            | 0.0888                      |                            |
|             |          |                 |                   |                                 | PM < 10 micron             | 0.04               | 0.175                            | 0.0888                      |                            |
|             |          |                 |                   |                                 | Volatile Organic Compounds | 0.19               | 1.6                              | 0.811                       |                            |
|             | Cooler   | EQUI 23         | EU047             | Fluid Bed Cooler                | Acetaldehyde               | 0.08               | 0.34                             | 0.34                        |                            |
|             |          |                 |                   |                                 | Acrolein                   | 0.04               | 0.17                             | 0.17                        |                            |
|             |          |                 |                   |                                 | Carbon disulfide           | 0.02               | 0.08                             | 0.08                        |                            |
|             |          |                 |                   |                                 | Carbonyl sulfide           | 0.02               | 0.07                             | 0.07                        |                            |
|             |          |                 |                   |                                 | Formaldehyde               | 0.02               | 0.08                             | 0.08                        |                            |
|             |          |                 |                   |                                 | HAPs - Total               | 0.23               | 0.99                             | 0.99                        |                            |
|             |          |                 |                   |                                 | Methanol                   | 0.06               | 0.25                             | 0.25                        |                            |
|             |          |                 |                   |                                 | Particulate Matter         | 2.06               | 901.03                           | 9.01                        |                            |
|             |          |                 |                   |                                 | PM < 2.5 micron            | 2.06               | 128.72                           | 9.01                        |                            |
|             |          |                 |                   |                                 | PM < 10 micron             | 2.06               | 128.72                           | 9.01                        |                            |
|             |          |                 |                   |                                 | Sulfur Dioxide             | 0.84               | 3.68                             | 3.68                        |                            |
|             |          |                 |                   |                                 | Volatile Organic Compounds | 8                  | 35.04                            | 35.04                       |                            |
|             | Elevator | EQUI 8          | EU017             | DDGS Loadout Elevator           | Acetaldehyde               | 0.016              | 0.491                            | 0.068                       |                            |
|             |          |                 |                   |                                 | Acrolein                   | 0.014              | 0.446                            | 0.061                       |                            |
|             |          |                 |                   |                                 | Formaldehyde               | 0.0027             | 0.09                             | 0.012                       |                            |

## PTE by SI

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Category                 | SI Type                     | Subject Item ID | Delta Designation | Description                     | Pollutant                  | Potential (lbs/hr) | Unrestricted Potential (tons/yr) | Potential Limited (tons/yr) | Actual Emissions (tons/yr) |
|-----------------------------|-----------------------------|-----------------|-------------------|---------------------------------|----------------------------|--------------------|----------------------------------|-----------------------------|----------------------------|
| Equipment                   | Elevator                    | EQUI 8          | EU017             | DDGS Loadout Elevator           | HAPs - Total               | 0.05               | 1.578                            | 0.217                       |                            |
|                             |                             |                 |                   |                                 | Methanol                   | 0.017              | 0.551                            | 0.076                       |                            |
|                             |                             |                 |                   |                                 | Particulate Matter         | 0.607              | 2.66                             | 0.366                       |                            |
|                             |                             |                 |                   |                                 | PM < 2.5 micron            | 0.147              | 0.645                            | 0.0888                      |                            |
|                             |                             |                 |                   |                                 | PM < 10 micron             | 0.147              | 0.645                            | 0.0888                      |                            |
|                             |                             |                 |                   |                                 | Volatile Organic Compounds | 0.19               | 5.889                            | 0.811                       |                            |
|                             | Fermentation Equipment      | EQUI 71         | EU071             | Ethanol Loading Rack #2         | Benzene                    | 0.097              | 2.41                             | 1.98                        |                            |
|                             |                             |                 |                   |                                 | Carbon Dioxide             | 3.21               | 14.08                            | 14.08                       |                            |
|                             |                             |                 |                   |                                 | Carbon Dioxide Equivalent  | 3.22               | 14.09                            | 14.09                       |                            |
|                             |                             |                 |                   |                                 | Carbon Monoxide            | 1.18               | 0.85                             | 0.85                        |                            |
|                             |                             |                 |                   |                                 | Cumene (Isopropylbenzene)  | 0.04               | 1.05                             | 0.03                        |                            |
|                             |                             |                 |                   |                                 | Ethylbenzene               | 0.08               | 2.1                              | 0.06                        |                            |
|                             |                             |                 |                   |                                 | HAPs - Total               | 1.78               | 45.38                            | 3.17                        |                            |
|                             |                             |                 |                   |                                 | Hexane                     | 0.28               | 7.34                             | 0.21                        |                            |
|                             |                             |                 |                   |                                 | Methane                    | 0.0001             | 0.0003                           | 0.0003                      |                            |
|                             |                             |                 |                   |                                 | Naphthalene                | 0.04               | 1.05                             | 0.03                        |                            |
|                             |                             |                 |                   |                                 | Nitrogen Oxides            | 0.51               | 0.37                             | 0.37                        |                            |
|                             |                             |                 |                   |                                 | Nitrous Oxide              | 1e-05              | 2e-05                            | 2e-05                       |                            |
|                             |                             |                 |                   |                                 | Sulfur Dioxide             | 2e-05              | 7e-05                            | 7e-05                       |                            |
|                             |                             |                 |                   |                                 | Toluene                    | 0.62               | 15.72                            | 0.44                        |                            |
|                             |                             |                 |                   |                                 | Volatile Organic Compounds | 4.09               | 105.65                           | 2.92                        |                            |
|                             |                             |                 |                   |                                 | Xylenes, Total             | 0.62               | 15.72                            | 0.44                        |                            |
|                             | Loading-Unloading Equipment | EQUI 67         | EU023             | Ethanol Loading Rack #1         | Benzene                    | 0.097              | 2.41                             | 1.98                        |                            |
|                             |                             |                 |                   |                                 | Carbon Dioxide             | 3.21               | 14.08                            | 14.08                       |                            |
|                             |                             |                 |                   |                                 | Carbon Dioxide Equivalent  | 3.22               | 14.09                            | 14.09                       |                            |
|                             |                             |                 |                   |                                 | Carbon Monoxide            | 1.18               | 0.85                             | 0.85                        |                            |
|                             |                             |                 |                   |                                 | Cumene (Isopropylbenzene)  | 0.04               | 1.05                             | 0.03                        |                            |
|                             |                             |                 |                   |                                 | Ethylbenzene               | 0.08               | 2.1                              | 0.06                        |                            |
|                             |                             |                 |                   |                                 | HAPs - Total               | 1.78               | 45.38                            | 3.17                        |                            |
|                             |                             |                 |                   |                                 | Hexane                     | 0.28               | 7.34                             | 0.21                        |                            |
|                             |                             |                 |                   |                                 | Methane                    | 0.0001             | 0.0003                           | 0.0003                      |                            |
|                             |                             |                 |                   |                                 | Naphthalene                | 0.04               | 1.05                             | 0.03                        |                            |
|                             |                             |                 |                   |                                 | Nitrogen Oxides            | 0.51               | 0.37                             | 0.37                        |                            |
|                             |                             |                 |                   |                                 | Nitrous Oxide              | 1e-05              | 2e-05                            | 2e-05                       |                            |
|                             |                             |                 |                   |                                 | Sulfur Dioxide             | 2e-05              | 7e-05                            | 7e-05                       |                            |
|                             |                             |                 |                   |                                 | Toluene                    | 0.62               | 15.72                            | 0.44                        |                            |
|                             |                             |                 |                   |                                 | Volatile Organic Compounds | 4.09               | 105.65                           | 2.92                        |                            |
|                             |                             | EQUI 179        | EU073             | DDGS Truck Loadout Spout        | Xylenes, Total             | 0.62               | 15.72                            | 0.44                        |                            |
|                             |                             |                 |                   |                                 | Acetaldehyde               | 0.016              | 0.491                            | 0.068                       |                            |
|                             |                             |                 |                   |                                 | Acrolein                   | 0.014              | 0.446                            | 0.061                       |                            |
|                             |                             |                 |                   |                                 | Formaldehyde               | 0.0027             | 0.09                             | 0.012                       |                            |
|                             |                             |                 |                   |                                 | HAPs - Total               | 0.05               | 1.578                            | 0.217                       |                            |
|                             |                             |                 |                   |                                 | Methanol                   | 0.017              | 0.551                            | 0.076                       |                            |
|                             |                             |                 |                   |                                 | Particulate Matter         | 0.607              | 2.66                             | 0.366                       |                            |
|                             |                             |                 |                   |                                 | PM < 2.5 micron            | 0.147              | 0.645                            | 0.0888                      |                            |
|                             |                             |                 |                   |                                 | PM < 10 micron             | 0.147              | 0.645                            | 0.0888                      |                            |
|                             |                             |                 |                   |                                 | Volatile Organic Compounds | 0.19               | 5.889                            | 0.811                       |                            |
|                             |                             | EQUI 202        | Null              | DDGS Portable Container Loadout | Acetaldehyde               | 0.016              | 0.491                            | 0.068                       |                            |
|                             |                             |                 |                   |                                 | Acrolein                   | 0.014              | 0.446                            | 0.061                       |                            |
|                             |                             |                 |                   |                                 | Formaldehyde               | 0.0027             | 0.09                             | 0.012                       |                            |
|                             |                             |                 |                   |                                 | HAPs - Total               | 0.05               | 1.578                            | 0.217                       |                            |
|                             |                             |                 |                   |                                 | Methanol                   | 0.017              | 0.551                            | 0.076                       |                            |
|                             |                             |                 |                   |                                 | Particulate Matter         | 0.607              | 2.66                             | 0.366                       |                            |
|                             |                             |                 |                   |                                 | PM < 2.5 micron            | 0.147              | 0.645                            | 0.0888                      |                            |
| Material Handling Equipment | Material Handling Equipment | EQUI 177        | EU066             | DDGS Reclaim Pit                | PM < 10 micron             | 0.147              | 0.645                            | 0.0888                      |                            |
|                             |                             |                 |                   |                                 | Volatile Organic Compounds | 0.19               | 5.889                            | 0.811                       |                            |
|                             |                             |                 |                   |                                 | Acetaldehyde               | 0.016              | 0.127                            | 0.068                       |                            |
|                             |                             |                 |                   |                                 | Acrolein                   | 0.014              | 0.115                            | 0.061                       |                            |
|                             |                             |                 |                   |                                 | Formaldehyde               | 0.0027             | 0.023                            | 0.012                       |                            |
|                             |                             |                 |                   |                                 | HAPs - Total               | 0.05               | 0.407                            | 0.217                       |                            |
|                             |                             |                 |                   |                                 | Methanol                   | 0.017              | 0.142                            | 0.076                       |                            |
|                             |                             |                 |                   |                                 | Particulate Matter         | 0.157              | 0.686                            | 0.366                       |                            |
|                             |                             |                 |                   |                                 | PM < 2.5 micron            | 0.038              | 0.166                            | 0.0888                      |                            |
|                             |                             |                 |                   |                                 | PM < 10 micron             | 0.038              | 0.166                            | 0.0888                      |                            |
|                             |                             |                 |                   |                                 | Volatile Organic Compounds | 0.19               | 1.52                             | 0.811                       |                            |
|                             |                             | EQUI 195        | Null              | Whole Stillage Tank             | Acetaldehyde               | 0.0001             | 0.0003                           | 0.0003                      |                            |
|                             |                             |                 |                   |                                 | HAPs - Total               | 0.0001             | 0.0003                           | 0.0003                      |                            |
|                             |                             |                 |                   |                                 | Volatile Organic Compounds | 0.02               | 0.08                             | 0.08                        |                            |
|                             | Material Handling Equipment | EQUI 196        | Null              | Thin Stillage Tank              | Acetaldehyde               | 0.0003             | 0.001                            | 0.001                       |                            |
|                             |                             |                 |                   |                                 | HAPs - Total               | 0.0003             | 0.001                            | 0.001                       |                            |
|                             |                             |                 |                   |                                 | Volatile Organic Compounds | 0.08               | 0.36                             | 0.36                        |                            |
|                             | Material Handling Equipment | EQUI 197        | Null              | Syrup Tank #1                   | Acetaldehyde               | 0.0002             | 0.001                            | 0.001                       |                            |
|                             |                             |                 |                   |                                 | HAPs - Total               | 0.0002             | 0.001                            | 0.001                       |                            |
|                             |                             |                 |                   |                                 | Volatile Organic Compounds | 0.05               | 0.22                             | 0.22                        |                            |
|                             | Material Handling Equipment | EQUI 211        | Null              | Syrup Tank #2                   | Acetaldehyde               | 0.0002             | 0.001                            | 0.001                       |                            |

PTE by SI

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category         | SI Type                     | Subject Item ID | Delta Designation | Description                    | Pollutant                      | Potential (lbs/hr) | Unrestricted Potential (tons/yr) | Potential Limited (tons/yr) | Actual Emissions (tons/yr) |
|---------------------|-----------------------------|-----------------|-------------------|--------------------------------|--------------------------------|--------------------|----------------------------------|-----------------------------|----------------------------|
| Equipment           | Material Handling Equipment | EQUI 211        | Null              | Syrup Tank #2                  | HAPs - Total                   | 0.0002             | 0.001                            | 0.001                       |                            |
|                     |                             |                 |                   |                                | Volatile Organic Compounds     | 0.05               | 0.22                             | 0.22                        |                            |
|                     |                             | EQUI 225        | Null              | DDGS Storage Building Handling | Acetaldehyde                   | 0.016              | 0.133                            | 0.068                       |                            |
|                     |                             |                 |                   |                                | Acrolein                       | 0.014              | 0.121                            | 0.061                       |                            |
|                     |                             |                 |                   |                                | Formaldehyde                   | 0.0027             | 0.024                            | 0.012                       |                            |
|                     |                             |                 |                   |                                | HAPs - Total                   | 0.05               | 0.428                            | 0.217                       |                            |
|                     |                             |                 |                   |                                | Methanol                       | 0.017              | 0.15                             | 0.076                       |                            |
|                     |                             |                 |                   |                                | Particulate Matter             | 0.165              | 0.723                            | 0.366                       |                            |
|                     |                             |                 |                   |                                | PM < 2.5 micron                | 0.04               | 0.175                            | 0.0888                      |                            |
|                     |                             |                 |                   |                                | PM < 10 micron                 | 0.04               | 0.175                            | 0.0888                      |                            |
|                     |                             |                 |                   |                                | Volatile Organic Compounds     | 0.19               | 1.6                              | 0.811                       |                            |
|                     | Other Combustion            | EQUI 219        | Null              | Make-Up Air Unit               | 1,4-Dichlorobenzene (para-)    | 2.9e-06            | 1.27e-05                         | 0.000794                    |                            |
|                     |                             |                 |                   |                                | 2-Methylnaphthalene            | 5.8e-08            | 2.54e-07                         | 2.54e-07                    |                            |
|                     |                             |                 |                   |                                | 3-Methylcholanthrene           | 4.35e-08           | 1.9e-08                          | 1.9e-08                     |                            |
|                     |                             |                 |                   |                                | 7,12-Dimethylbenz[a]anthracene | 3.87e-09           | 1.69e-08                         | 1.69e-08                    |                            |
|                     |                             |                 |                   |                                | Acenaphthene                   | 4.35e-09           | 1.9e-08                          | 1.9e-08                     |                            |
|                     |                             |                 |                   |                                | Acenaphthylene                 | 4.35e-09           | 1.9e-08                          | 1.9e-08                     |                            |
|                     |                             |                 |                   |                                | Anthracene                     | 5.8e-09            | 2.54e-08                         | 2.54e-08                    |                            |
|                     |                             |                 |                   |                                | Arsenic compounds              | 4.83e-07           | 2.12e-06                         | 2.12e-06                    |                            |
|                     |                             |                 |                   |                                | Benzene                        | 5.07e-06           | 2.22e-05                         | 2.22e-05                    |                            |
|                     |                             |                 |                   |                                | Benzo(a)anthracene             | 4.35e-09           | 1.9e-08                          | 1.9e-08                     |                            |
|                     |                             |                 |                   |                                | Benzo(b)fluoranthene           | 4.35e-09           | 1.9e-08                          | 1.9e-08                     |                            |
|                     |                             |                 |                   |                                | Benzo(ghi)perylene             | 2.9e-09            | 1.27e-08                         | 1.27e-08                    |                            |
|                     |                             |                 |                   |                                | Benzo(k)fluoranthene           | 4.35e-09           | 1.9e-08                          | 1.9e-08                     |                            |
|                     |                             |                 |                   |                                | Benzo[a]pyrene                 | 2.9e-09            | 1.27e-08                         | 1.27e-08                    |                            |
|                     |                             |                 |                   |                                | Beryllium                      | 2.9e-08            | 1.27e-07                         | 1.27e-07                    |                            |
|                     |                             |                 |                   |                                | Cadmium compounds              | 2.66e-06           | 1.16e-05                         | 1.16e-05                    |                            |
|                     |                             |                 |                   |                                | Carbon Dioxide                 | 288                | 1,260                            | 1,260                       |                            |
|                     |                             |                 |                   |                                | Carbon Dioxide Equivalent      | 288                | 1,260                            | 1,260                       |                            |
|                     |                             |                 |                   |                                | Carbon Monoxide                | 0.203              | 0.889                            | 0.889                       |                            |
|                     |                             |                 |                   |                                | Chromium compounds             | 3.38e-06           | 1.48e-05                         | 1.48e-05                    |                            |
|                     |                             |                 |                   |                                | Chrysene                       | 4.35e-09           | 1.9e-08                          | 1.9e-08                     |                            |
|                     |                             |                 |                   |                                | Cobalt compounds               | 2.03e-07           | 8.89e-07                         | 8.89e-07                    |                            |
|                     |                             |                 |                   |                                | Dibenz[a,h]anthracene          | 2.9e-09            | 1.27e-08                         | 1.27e-08                    |                            |
|                     |                             |                 |                   |                                | Fluoranthene                   | 7.25e-09           | 3.17e-08                         | 3.17e-08                    |                            |
|                     |                             |                 |                   |                                | Fluorene                       | 6.76e-09           | 2.96e-08                         | 2.96e-08                    |                            |
|                     |                             |                 |                   |                                | Formaldehyde                   | 0.000181           | 0.000794                         | 0.000794                    |                            |
|                     |                             |                 |                   |                                | HAPs - Total                   | 0.005              | 0.02                             | 0.02                        |                            |
|                     |                             |                 |                   |                                | Hexane                         | 0.00435            | 0.019                            | 0.019                       |                            |
|                     |                             |                 |                   |                                | Indeno(1,2,3-cd)pyrene         | 4.35e-09           | 1.9e-08                          | 1.9e-08                     |                            |
|                     |                             |                 |                   |                                | Lead                           | 1.21e-06           | 5.29e-06                         | 5.29e-06                    |                            |
|                     |                             |                 |                   |                                | Manganese compounds            | 9.18e-07           | 4.02e-06                         | 4.02e-06                    |                            |
|                     |                             |                 |                   |                                | Mercury                        | 6.28e-07           | 2.75e-06                         | 2.75e-06                    |                            |
|                     |                             |                 |                   |                                | Methane                        | 0.00542            | 0.0237                           | 0.0237                      |                            |
|                     |                             |                 |                   |                                | Naphthalene                    | 1.47e-06           | 6.45e-06                         | 6.45e-06                    |                            |
|                     |                             |                 |                   |                                | Nickel compounds               | 5.07e-06           | 2.22e-05                         | 2.22e-05                    |                            |
|                     |                             |                 |                   |                                | Nitrogen Oxides                | 0.242              | 1.06                             | 1.06                        |                            |
|                     |                             |                 |                   |                                | Nitrous Oxide                  | 0.000542           | 0.00237                          | 0.00237                     |                            |
|                     |                             |                 |                   |                                | Particulate Matter             | 0.0184             | 0.0804                           | 0.0804                      |                            |
|                     |                             |                 |                   |                                | PM < 2.5 micron                | 0.0184             | 0.0804                           | 0.0804                      |                            |
|                     |                             |                 |                   |                                | PM < 10 micron                 | 0.0184             | 0.0804                           | 0.0804                      |                            |
|                     |                             |                 |                   |                                | Pyrene                         | 1.21e-08           | 5.29e-08                         | 5.29e-08                    |                            |
|                     |                             |                 |                   |                                | Selenium compounds             | 6.04e-08           | 2.65e-07                         | 2.65e-07                    |                            |
|                     |                             |                 |                   |                                | Sulfur Dioxide                 | 0.00145            | 0.00635                          | 0.00635                     |                            |
|                     |                             |                 |                   |                                | Toluene                        | 8.21e-06           | 3.6e-05                          | 3.6e-05                     |                            |
|                     |                             |                 |                   |                                | Volatile Organic Compounds     | 0.0133             | 0.0582                           | 0.0582                      |                            |
| Other Emission Unit | Other Emission Unit         | EQUI 5          | EU013             | DDGS Storage Building          | Acetaldehyde                   | 0.016              | 0.133                            | 0.068                       |                            |
|                     |                             |                 |                   |                                | Acrolein                       | 0.014              | 0.121                            | 0.061                       |                            |
|                     |                             |                 |                   |                                | Formaldehyde                   | 0.0027             | 0.024                            | 0.012                       |                            |
|                     |                             |                 |                   |                                | HAPs - Total                   | 0.05               | 0.428                            | 0.217                       |                            |
|                     |                             |                 |                   |                                | Methanol                       | 0.017              | 0.15                             | 0.076                       |                            |
|                     |                             |                 |                   |                                | Particulate Matter             | 0.165              | 0.723                            | 0.366                       |                            |
|                     |                             |                 |                   |                                | PM < 2.5 micron                | 0.04               | 0.175                            | 0.0888                      |                            |
|                     |                             |                 |                   |                                | PM < 10 micron                 | 0.04               | 0.175                            | 0.0888                      |                            |
|                     |                             |                 |                   |                                | Volatile Organic Compounds     | 0.19               | 1.6                              | 0.811                       |                            |
|                     | Reciprocating IC Engine     | EQUI 218        | Null              | Emergency Diesel Generator     | Acetaldehyde                   | 0.000194           | 0.000848                         | 4.84e-05                    |                            |
|                     |                             |                 |                   |                                | Acrolein                       | 6.06e-05           | 0.000265                         | 1.51e-05                    |                            |
|                     |                             |                 |                   |                                | Benzene                        | 0.00596            | 0.0261                           | 0.00149                     |                            |
|                     |                             |                 |                   |                                | Carbon Dioxide                 | 1,253              | 5,488                            | 313                         |                            |
|                     |                             |                 |                   |                                | Carbon Dioxide Equivalent      | 1,257              | 5,506                            | 314.3                       |                            |
|                     |                             |                 |                   |                                | Carbon Monoxide                | 1.33               | 5.83                             | 0.33                        |                            |
|                     |                             |                 |                   |                                | Formaldehyde                   | 0.000606           | 0.00266                          | 0.000152                    |                            |
|                     |                             |                 |                   |                                | HAPs - Total                   | 0.01               | 0.05                             | 0.003                       |                            |
|                     |                             |                 |                   |                                | Methane                        | 0.05               | 0.22                             | 0.01                        |                            |
|                     |                             |                 |                   |                                | Naphthalene                    | 0.000999           | 0.00438                          | 0.00025                     |                            |



## PTE by SI

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Category       | SI Type                              | Subject Item ID | Delta Designation | Description                                              | Pollutant                  | Potential (lbs/hr) | Unrestricted Potential (tons/yr) | Potential Limited (tons/yr) | Actual Emissions (tons/yr) |
|-------------------|--------------------------------------|-----------------|-------------------|----------------------------------------------------------|----------------------------|--------------------|----------------------------------|-----------------------------|----------------------------|
| Equipment         | Reciprocating IC Engine              | EQUI 218        | Null              | Emergency Diesel Generator                               | Nitrogen Oxides            | 60.93              | 266.87                           | 15.23                       |                            |
|                   |                                      |                 |                   |                                                          | Nitrous Oxide              | 0.01               | 0.04                             | 0.003                       |                            |
|                   |                                      |                 |                   |                                                          | Particulate Matter         | 4.99               | 21.85                            | 1.25                        |                            |
|                   |                                      |                 |                   |                                                          | PM < 2.5 micron            | 4.99               | 21.85                            | 1.25                        |                            |
|                   |                                      |                 |                   |                                                          | PM < 10 micron             | 4.99               | 21.85                            | 1.25                        |                            |
|                   |                                      |                 |                   |                                                          | Sulfur Dioxide             | 12.07              | 52.86                            | 3.02                        |                            |
|                   |                                      |                 |                   |                                                          | Toluene                    | 0.00216            | 0.00946                          | 0.00054                     |                            |
|                   |                                      |                 |                   |                                                          | Volatile Organic Compounds | 1.06               | 4.66                             | 0.27                        |                            |
|                   |                                      |                 |                   |                                                          | Xylenes, Total             | 0.00148            | 0.0065                           | 0.000371                    |                            |
|                   | Separation Equipment                 | EQUI 204        | Null              | Flour Receiver                                           | Particulate Matter         | 0.14               | 488.76                           | 0.62                        |                            |
|                   |                                      |                 |                   |                                                          | PM < 2.5 micron            | 0.14               | 488.76                           | 0.62                        |                            |
|                   |                                      |                 |                   |                                                          | PM < 10 micron             | 0.14               | 488.76                           | 0.62                        |                            |
|                   |                                      | EQUI 213        | EU041             | Flour Receiver                                           | Particulate Matter         | 0.14               | 488.76                           | 0.62                        |                            |
|                   |                                      |                 |                   |                                                          | PM < 2.5 micron            | 0.14               | 488.76                           | 0.62                        |                            |
| Fugitive          | Cooling Tower                        | FUGI 15         | Null              | Cooling Tower 1                                          | Particulate Matter         | 0.451              | 1.97                             | 1.97                        |                            |
|                   |                                      |                 |                   |                                                          | PM < 2.5 micron            | 0.00101            | 0.00444                          | 0.00444                     |                            |
|                   |                                      |                 |                   |                                                          | PM < 10 micron             | 0.34               | 1.49                             | 1.49                        |                            |
|                   |                                      | FUGI 16         | Null              | Cooling Tower 2                                          | Particulate Matter         | 0.451              | 1.97                             | 1.97                        |                            |
|                   |                                      |                 |                   |                                                          | PM < 2.5 micron            | 0.00101            | 0.00444                          | 0.00444                     |                            |
|                   |                                      |                 |                   |                                                          | PM < 10 micron             | 0.34               | 1.49                             | 1.49                        |                            |
|                   | Equipment Leaks                      | FUGI 7          | FS005             | Miscellaneous VOC Fugitiv..                              | Volatile Organic Compounds | 2.55               | 79.6                             | 11.16                       |                            |
|                   |                                      | FUGI 13         | FS009             | Tank Farm Fugitive VOCs - Equipment Leaks                | Acetaldehyde               | 5.81e-08           | 0.00411                          | 0.000509                    |                            |
|                   |                                      |                 |                   |                                                          | Acrolein                   | 4.08e-09           | 0.000289                         | 3.57e-05                    |                            |
|                   |                                      |                 |                   |                                                          | Benzene                    | 1.56e-06           | 0.11                             | 0.0137                      |                            |
|                   |                                      |                 |                   |                                                          | Ethylbenzene               | 2.9e-08            | 0.00206                          | 0.000254                    |                            |
|                   |                                      |                 |                   |                                                          | Formaldehyde               | 8.15e-09           | 0.000577                         | 7.14e-05                    |                            |
|                   |                                      |                 |                   |                                                          | HAPs - Total               | 1e-05              | 0.8                              | 0.1                         |                            |
|                   |                                      |                 |                   |                                                          | Hexane                     | 9.4e-06            | 0.659                            | 0.0832                      |                            |
|                   |                                      |                 |                   |                                                          | Methanol                   | 6.12e-09           | 0.000433                         | 5.36e-05                    |                            |
|                   |                                      |                 |                   |                                                          | Toluene                    | 3.03e-07           | 0.0213                           | 0.00266                     |                            |
|                   |                                      |                 |                   |                                                          | Volatile Organic Compounds | 0.84               | 28.7                             | 3.66                        |                            |
|                   |                                      | FUGI 20         | Null              | Fermenter and Beerwell Leaks (non-LDAR)                  | Xylenes, Total             | 8.71e-08           | 0.00617                          | 0.000763                    |                            |
|                   |                                      |                 |                   |                                                          | Acetaldehyde               | 0.0152             | 0.0863                           | 0.0666                      |                            |
|                   |                                      |                 |                   |                                                          | Acrolein                   | 0.0053             | 0.0301                           | 0.0232                      |                            |
|                   |                                      |                 |                   |                                                          | Formaldehyde               | 0.00014            | 0.000795                         | 0.000614                    |                            |
|                   |                                      |                 |                   |                                                          | HAPs - Total               | 0.02               | 0.12                             | 0.09                        |                            |
|                   |                                      |                 |                   |                                                          | Methanol                   | 0.000958           | 0.00543                          | 0.0042                      |                            |
|                   |                                      |                 |                   |                                                          | Volatile Organic Compounds | 4.33               | 24.5                             | 19                          |                            |
|                   | Material Handling/ Transfer/ Storage | FUGI 12         | FS008             | Wet Cake Production - Material Handling/Transfer/Storage | Acetaldehyde               | 0.0048             | 0.021                            | 0.021                       |                            |
|                   |                                      |                 |                   |                                                          | Acrolein                   | 0.00096            | 0.0042                           | 0.0042                      |                            |
|                   |                                      |                 |                   |                                                          | Formaldehyde               | 0.0096             | 0.042                            | 0.042                       |                            |
|                   |                                      |                 |                   |                                                          | HAPs - Total               | 0.02               | 0.08                             | 0.08                        |                            |
|                   |                                      |                 |                   |                                                          | Methanol                   | 0.00192            | 0.00841                          | 0.0084                      |                            |
|                   |                                      |                 |                   |                                                          | Volatile Organic Compounds | 0.4                | 1.74                             | 1.74                        |                            |
|                   |                                      | FUGI 21         | Null              | Brewery Waste Receiving                                  | Acetaldehyde               | 0.0137             | 0.0089                           | 0.0089                      |                            |
|                   |                                      |                 |                   |                                                          | Acrolein                   | 0.000118           | 7.666e-05                        | 7.66e-05                    |                            |
|                   |                                      |                 |                   |                                                          | Formaldehyde               | 0.00034            | 0.000221                         | 0.000221                    |                            |
|                   |                                      |                 |                   |                                                          | HAPs - Total               | 0.02               | 0.01                             | 0.01                        |                            |
| Vehicle Emissions |                                      |                 |                   | Truck Traffic - Paved Roads                              | Methanol                   | 0.00133            | 0.000862                         | 0.000862                    |                            |
|                   |                                      |                 |                   |                                                          | Volatile Organic Compounds | 1.94               | 1.26                             | 1.26                        |                            |
|                   |                                      |                 |                   |                                                          | Particulate Matter         | 25                 | 9.99                             | 9.99                        |                            |
|                   |                                      |                 |                   |                                                          | PM < 2.5 micron            | 1.23               | 0.491                            | 0.491                       |                            |
|                   |                                      |                 |                   |                                                          | PM < 10 micron             | 5.01               | 2                                | 2                           |                            |

Relationships

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category | SI Type  | Subject Item ID | Delta Designation | Description                          | Relationship                 | Related SI ID | % Flow | Related SI Type                               | Related Delta Designation | Relationship Start Date | Relationship End Date |  |
|-------------|----------|-----------------|-------------------|--------------------------------------|------------------------------|---------------|--------|-----------------------------------------------|---------------------------|-------------------------|-----------------------|--|
| Equipment   | Boiler   | EQUI 9          | EU018             | Boiler #1                            | sends to                     | STRU 34       | 100    | Stack/Vent                                    | SV011                     | 7/21/1997               | Null                  |  |
|             |          | EQUI 14         | EU038             | Boiler #2                            | sends to                     | STRU 1        | 100    | Stack/Vent                                    | SV017                     | 3/1/2002                | Null                  |  |
|             | Conveyor | EQUI 16         | EU040             | Bin Loading Conveyor 1               | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 3/1/2002                | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 3/1/2002                | Null                  |  |
|             |          | EQUI 32         | EU063             | Hi-Roller Bin Loading Conveyor 1     | is controlled by             | TREA 11       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                     | 9/1/2007                | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 23       | 100    | Stack/Vent                                    | SV030                     | 9/1/2007                | Null                  |  |
|             |          | EQUI 96         | EU076             | Hammermill Flour Collection Conveyor | is controlled by             | TREA 7        | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE016                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | TREA 8        | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE017                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | TREA 9        | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE018                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | TREA 10       | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE019                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 29       | 25     | Stack/Vent                                    | SV025                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | STRU 30       | 25     | Stack/Vent                                    | SV026                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | STRU 31       | 25     | Stack/Vent                                    | SV027                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | STRU 32       | 25     | Stack/Vent                                    | SV028                     | 8/17/1998               | Null                  |  |
|             |          | EQUI 97         | EU075             | Hammermill Feed Conveyor             | is controlled in parallel by | TREA 7        | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE016                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | TREA 8        | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE017                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | TREA 9        | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE018                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | TREA 10       | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE019                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 29       | 25     | Stack/Vent                                    | SV025                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | STRU 30       | 25     | Stack/Vent                                    | SV026                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | STRU 31       | 25     | Stack/Vent                                    | SV027                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      |                              | STRU 32       | 25     | Stack/Vent                                    | SV028                     | 8/17/1998               | Null                  |  |
|             |          | EQUI 180        | Null              | Grain Receiving Conveyor 1           | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 8/17/1998               | Null                  |  |
|             | EQUI 181 | Null            |                   | Grain Receiving Conveyor 2           | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 8/17/1998               | Null                  |  |
|             | EQUI 182 | Null            |                   | Bin Loading Conveyor 2               | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 8/17/1998               | Null                  |  |
|             | EQUI 183 | Null            |                   | Bin Loading Conveyor 3               | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 8/1/2002                | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 8/1/2002                | Null                  |  |
|             | EQUI 184 | Null            |                   | Bin Unloading Conveyor 1             | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 8/1/2002                | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 8/1/2002                | Null                  |  |
|             | EQUI 185 | Null            |                   | Bin Unloading Conveyor 2             | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 8/17/1998               | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 8/17/1998               | Null                  |  |
|             | EQUI 186 | Null            |                   | Bin Unloading Conveyor 3             | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 8/1/2002                | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 8/1/2002                | Null                  |  |
|             | EQUI 187 | Null            |                   | Dust Conveyor 1                      | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 10/1/2007               | Null                  |  |
|             |          |                 |                   |                                      | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 10/1/2007               | Null                  |  |
|             | EQUI 188 | Null            |                   | Grain Receiving Conveyor 3           | is controlled by             | TREA 11       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                     | 10/1/2007               | Null                  |  |

## Relationships

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Category<br>Equipment | SI Type<br>Conveyor    | Subject Item<br>ID | Delta<br>Designation | Description                        | Relationship     | Related SI<br>ID | % Flow | Related SI Type                               | Related Delta<br>Designation | Relationship<br>Start Date | Relationship<br>End Date |  |
|--------------------------|------------------------|--------------------|----------------------|------------------------------------|------------------|------------------|--------|-----------------------------------------------|------------------------------|----------------------------|--------------------------|--|
|                          |                        | EQUI 188           | Null                 | Grain Receiving Conveyor 3         | sends to         | STRU 23          | 100    | Stack/Vent                                    | SV030                        | 10/1/2007                  | Null                     |  |
|                          |                        | EQUI 190           | Null                 | Hi-Roller Bin Loading Conveyor 2   | is controlled by | TREA 11          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                        | 10/1/2007                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 23          | 100    | Stack/Vent                                    | SV030                        | 10/1/2007                  | Null                     |  |
|                          |                        | EQUI 191           | Null                 | Hi-Roller Bin Unloading Conveyor 2 | is controlled by | TREA 11          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                        | 10/1/2007                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 23          | 100    | Stack/Vent                                    | SV030                        | 10/1/2007                  | Null                     |  |
|                          |                        | EQUI 198           | Null                 | DDGS Silo Unloading Conveyor       | is controlled by | TREA 20          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE010                        | 8/1/2002                   | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 17          | 100    | Stack/Vent                                    | SV016                        | 8/1/2002                   | Null                     |  |
|                          |                        | EQUI 220           | Null                 | Hammermill #1 Conveyor             | is controlled by | TREA 7           | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE016                        | 8/22/2006                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 29          | 100    | Stack/Vent                                    | SV025                        | 8/22/2006                  | Null                     |  |
|                          |                        | EQUI 221           | Null                 | Hammermill #2 Conveyor             | is controlled by | TREA 8           | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE017                        | 8/22/2006                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 30          | 100    | Stack/Vent                                    | SV026                        | 8/22/2006                  | Null                     |  |
|                          |                        | EQUI 222           | Null                 | Hammermill #3 Conveyor             | is controlled by | TREA 9           | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE018                        | 8/22/2006                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 31          | 100    | Stack/Vent                                    | SV027                        | 8/22/2006                  | Null                     |  |
|                          |                        | EQUI 223           | Null                 | Hammermill #4 Conveyor             | is controlled by | TREA 10          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE019                        | 8/22/2006                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 32          | 100    | Stack/Vent                                    | SV028                        | 8/22/2006                  | Null                     |  |
|                          |                        | EQUI 233           | Null                 | Bin Unloading Conveyor 5           | is controlled by | TREA 7           | 20     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE016                        | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    |                  | TREA 8           | 20     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE017                        | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    |                  | TREA 9           | 20     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE018                        | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    |                  | TREA 10          | 20     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE019                        | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    |                  | TREA 26          | 20     | 018-Fabric Filter - Low Temp, T<180 Degrees F | Null                         | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 29          | 20     | Stack/Vent                                    | SV025                        | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    |                  | STRU 30          | 20     | Stack/Vent                                    | SV026                        | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    |                  | STRU 31          | 20     | Stack/Vent                                    | SV027                        | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    |                  | STRU 32          | 20     | Stack/Vent                                    | SV028                        | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    |                  | STRU 58          | 20     | Stack/Vent                                    | Null                         | 11/4/2020                  | Null                     |  |
|                          |                        | EQUI 235           | Null                 | Hammermill #5 Conveyor             | is controlled by | TREA 26          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | Null                         | 11/4/2020                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 58          | 100    | Stack/Vent                                    | Null                         | 11/4/2020                  | Null                     |  |
|                          | Cooler                 | EQUI 23            | EU047                | Fluid Bed Cooler                   | is controlled by | TREA 22          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE013                        | 8/17/1998                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 20          | 100    | Stack/Vent                                    | SV022                        | 8/17/1998                  | Null                     |  |
|                          | Dehydrator             | EQUI 6             | EU014                | Evaporator                         | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 7/21/1997                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 7/21/1997                  | Null                     |  |
|                          | Distillation Equipment | EQUI 13            | EU036                | Rectifier                          | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 3/1/2002                   | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 3/1/2002                   | Null                     |  |
|                          |                        | EQUI 226           | Null                 | Distillation Unit #1               | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 8/1/1998                   | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 8/1/1998                   | Null                     |  |
|                          |                        | EQUI 227           | Null                 | Distillation Unit #2               | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 3/1/2002                   | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 3/1/2002                   | Null                     |  |
|                          |                        | EQUI 228           | Null                 | Distillation Unit #3               | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 6/14/2016                  | Null                     |  |
|                          |                        |                    |                      |                                    | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 6/14/2016                  | Null                     |  |

## Relationships

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Category Equipment  | SI Type                           | Subject Item ID | Delta Designation | Description                     | Relationship                 | Related SI ID | % Flow | Related SI Type                               | Related Delta Designation | Relationship Start Date | Relationship End Date |  |
|------------------------|-----------------------------------|-----------------|-------------------|---------------------------------|------------------------------|---------------|--------|-----------------------------------------------|---------------------------|-------------------------|-----------------------|--|
| Distillation Equipment | Distillation Equipment            | EQUI 229        | Null              | Distillation Unit #4            | is controlled by             | TREA 17       | 100    | 050-Packed-Gas Absorption Column              | CE005                     | 8/17/1998               | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 13       | 100    | Stack/Vent                                    | SV010                     | 8/17/1998               | Null                  |  |
|                        |                                   | EQUI 230        | Null              | Distillation Unit #5            | is controlled by             | TREA 17       | 100    | 050-Packed-Gas Absorption Column              | CE005                     | 6/7/2018                | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 13       | 100    | Stack/Vent                                    | SV010                     | 6/7/2018                | Null                  |  |
|                        |                                   | EQUI 231        | Null              | Distillation Unit #6            | is controlled by             | TREA 17       | 100    | 050-Packed-Gas Absorption Column              | CE005                     | 6/7/2018                | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 13       | 100    | Stack/Vent                                    | SV010                     | 6/7/2018                | Null                  |  |
|                        | Dryer/Oven, unknown firing method | EQUI 20         | EU015             | DDGS Dryer #1 with Multicyclone | is controlled by             | TREA 14       | 100    | 131-Thermal Oxidizer                          | CE020                     | 12/7/2006               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/1/2024                | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 9        | 0      | Stack/Vent                                    | SV004                     | 12/7/2016               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | STRU 22       | 100    | Stack/Vent                                    | SV029                     | 12/7/2006               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/1/2024                | Null                  |  |
|                        |                                   | EQUI 61         | EU037             | DDGS Dryer #2 with Multicyclone | is controlled by             | TREA 14       | 100    | 131-Thermal Oxidizer                          | CE020                     | 3/3/2006                | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/1/2024                | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 21       | 0      | Stack/Vent                                    | SV023                     | 8/1/2002                | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | STRU 22       | 100    | Stack/Vent                                    | SV029                     | 3/3/2006                | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/1/2024                | Null                  |  |
|                        | Elevator                          | EQUI 2          | EU002             | Grain Receiving Elevator 1      | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 7/21/1997               | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 7/21/1997               | Null                  |  |
|                        |                                   | EQUI 15         | EU039             | Grain Receiving Elevator 2      | is controlled by             | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 3/1/2002                | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 3/1/2002                | Null                  |  |
|                        |                                   | EQUI 189        | Null              | Grain Receiving Elevator 3      | is controlled by             | TREA 11       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                     | 10/1/2007               | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 23       | 100    | Stack/Vent                                    | SV030                     | 10/1/2007               | Null                  |  |
|                        |                                   | EQUI 193        | Null              | Hammermill Feed Elevator        | is controlled in parallel by | TREA 7        | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE016                     | 8/17/1998               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | TREA 8        | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE017                     | 8/17/1998               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | TREA 9        | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE018                     | 8/17/1998               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | TREA 10       | 25     | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE019                     | 8/17/1998               | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 29       | 25     | Stack/Vent                                    | SV025                     | 8/17/1998               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | STRU 30       | 25     | Stack/Vent                                    | SV026                     | 8/17/1998               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | STRU 31       | 25     | Stack/Vent                                    | SV027                     | 8/17/1998               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | STRU 32       | 25     | Stack/Vent                                    | SV028                     | 8/17/1998               | Null                  |  |
| Fermentation Equipment | Fermentation Equipment            | EQUI 12         | EU035             | Fermenter #6                    | is controlled by             | TREA 14       | 100    | 131-Thermal Oxidizer                          | CE020                     | 3/3/2006                | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | TREA 19       | 100    | 050-Packed-Gas Absorption Column              | CE009                     | 11/20/2002              | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | TREA 25       | 0      | 050-Packed-Gas Absorption Column              | Null                      | 4/10/2018               | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/1/2024                | Null                  |  |
|                        |                                   |                 |                   |                                 | sends to                     | STRU 8        | 0      | Stack/Vent                                    | SV003                     | 11/20/2002              | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | STRU 22       | 100    | Stack/Vent                                    | SV029                     | 3/3/2006                | Null                  |  |
|                        |                                   |                 |                   |                                 |                              | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/1/2024                | Null                  |  |
|                        |                                   | EQUI 54         | EU025             | Fermenter #1                    | is controlled by             | TREA 25       | 0      | 050-Packed-Gas Absorption Column              | Null                      | 4/9/2018                | Null                  |  |
|                        |                                   |                 |                   |                                 | is controlled in parallel by | TREA 14       | 100    | 131-Thermal Oxidizer                          | CE020                     | 12/7/2006               | Null                  |  |

Relationships

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category<br>Equipment | SI Type<br>Fermentation Equipment | Subject Item<br>ID<br>EQUI 54 | Delta<br>Designation<br>EU025 | Description<br>Fermenter #1 | Relationship                    | Related SI<br>ID | % Flow | Related SI Type                     | Related Delta<br>Designation | Relationship<br>Start Date | Relationship<br>End Date |  |
|--------------------------|-----------------------------------|-------------------------------|-------------------------------|-----------------------------|---------------------------------|------------------|--------|-------------------------------------|------------------------------|----------------------------|--------------------------|--|
|                          |                                   |                               |                               |                             | is controlled<br>in parallel by | TREA 19          | 100    | 050-Packed-Gas Absorption<br>Column | CE009                        | 8/6/2002                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 27          | 0      | 131-Thermal Oxidizer                | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                               |                               |                             | sends to                        | STRU 8           | 0      | Stack/Vent                          | SV003                        | 12/7/2006                  | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 22          | 100    | Stack/Vent                          | SV029                        | 12/7/2006                  | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 57          | 0      | Stack/Vent                          | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 55                       | EU026                         | Fermenter #2                | is controlled<br>by             | TREA 14          | 100    | 131-Thermal Oxidizer                | CE020                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 19          | 100    | 050-Packed-Gas Absorption<br>Column | CE009                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 25          | 0      | 050-Packed-Gas Absorption<br>Column | Null                         | 4/9/2018                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 27          | 0      | 131-Thermal Oxidizer                | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                               |                               |                             | sends to                        | STRU 8           | 0      | Stack/Vent                          | SV003                        | 7/21/1997                  | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 22          | 100    | Stack/Vent                          | SV029                        | 12/7/2006                  | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 57          | 0      | Stack/Vent                          | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 56                       | EU027                         | Fermenter #7                | is controlled<br>by             | TREA 14          | 100    | 131-Thermal Oxidizer                | CE020                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 19          | 100    | 050-Packed-Gas Absorption<br>Column | CE009                        | 4/10/2018                  | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 25          | 0      | 050-Packed-Gas Absorption<br>Column | Null                         | 4/10/2018                  | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 27          | 0      | 131-Thermal Oxidizer                | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                               |                               |                             | sends to                        | STRU 8           | 0      | Stack/Vent                          | SV003                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 22          | 100    | Stack/Vent                          | SV029                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 57          | 0      | Stack/Vent                          | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 57                       | EU028                         | Beer Well                   | is controlled<br>by             | TREA 14          | 100    | 131-Thermal Oxidizer                | CE020                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 19          | 100    | 050-Packed-Gas Absorption<br>Column | CE009                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 25          | 0      | 050-Packed-Gas Absorption<br>Column | Null                         | 4/10/2018                  | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 27          | 0      | 131-Thermal Oxidizer                | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                               |                               |                             | sends to                        | STRU 8           | 0      | Stack/Vent                          | SV003                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 22          | 100    | Stack/Vent                          | SV029                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 57          | 0      | Stack/Vent                          | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 58                       | EU032                         | Fermenter #3                | is controlled<br>by             | TREA 14          | 100    | 131-Thermal Oxidizer                | CE020                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 19          | 100    | 050-Packed-Gas Absorption<br>Column | CE009                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 25          | 0      | 050-Packed-Gas Absorption<br>Column | Null                         | 4/10/2018                  | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 27          | 0      | 131-Thermal Oxidizer                | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                               |                               |                             | sends to                        | STRU 8           | 0      | Stack/Vent                          | SV003                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 22          | 100    | Stack/Vent                          | SV029                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 57          | 0      | Stack/Vent                          | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 59                       | EU033                         | Fermenter #4                | is controlled<br>by             | TREA 14          | 100    | 131-Thermal Oxidizer                | CE020                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 19          | 100    | 050-Packed-Gas Absorption<br>Column | CE009                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 25          | 0      | 050-Packed-Gas Absorption<br>Column | Null                         | 4/10/2018                  | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | TREA 27          | 0      | 131-Thermal Oxidizer                | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                               |                               |                             | sends to                        | STRU 8           | 0      | Stack/Vent                          | SV003                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                               |                               |                             |                                 | STRU 22          | 100    | Stack/Vent                          | SV029                        | 3/3/2006                   | Null                     |  |

Relationships

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category<br>Equipment | SI Type<br>Fermentation Equipment | Subject Item<br>ID | Delta<br>Designation | Description             | Relationship     | Related SI<br>ID | % Flow | Related SI Type                  | Related Delta<br>Designation | Relationship<br>Start Date | Relationship<br>End Date |  |
|--------------------------|-----------------------------------|--------------------|----------------------|-------------------------|------------------|------------------|--------|----------------------------------|------------------------------|----------------------------|--------------------------|--|
|                          |                                   | EQUI 59            | EU033                | Fermenter #4            | sends to         | STRU 57          | 0      | Stack/Vent                       | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 60            | EU034                | Fermenter #5            | is controlled by | TREA 14          | 100    | 131-Thermal Oxidizer             | CE020                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 19          | 100    | 050-Packed-Gas Absorption Column | CE009                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 25          | 0      | 050-Packed-Gas Absorption Column | Null                         | 4/10/2018                  | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 27          | 0      | 131-Thermal Oxidizer             | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                    |                      |                         | sends to         | STRU 8           | 0      | Stack/Vent                       | SV003                        | 11/20/2002                 | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 22          | 100    | Stack/Vent                       | SV029                        | 3/3/2006                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 57          | 0      | Stack/Vent                       | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 63            | EU050                | Fermenter #8            | is controlled by | TREA 14          | 100    | 131-Thermal Oxidizer             | CE020                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 19          | 100    | 050-Packed-Gas Absorption Column | CE009                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 25          | 0      | 050-Packed-Gas Absorption Column | Null                         | 4/10/2018                  | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 27          | 0      | 131-Thermal Oxidizer             | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                    |                      |                         | sends to         | STRU 8           | 0      | Stack/Vent                       | SV003                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 22          | 100    | Stack/Vent                       | SV029                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 57          | 0      | Stack/Vent                       | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 64            | EU051                | Fermenter #9            | is controlled by | TREA 14          | 100    | 131-Thermal Oxidizer             | CE020                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 19          | 100    | 050-Packed-Gas Absorption Column | CE009                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 25          | 0      | 050-Packed-Gas Absorption Column | Null                         | 4/10/2018                  | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 27          | 0      | 131-Thermal Oxidizer             | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                    |                      |                         | sends to         | STRU 8           | 0      | Stack/Vent                       | SV003                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 22          | 100    | Stack/Vent                       | SV029                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 57          | 0      | Stack/Vent                       | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 65            | EU052                | Fermenter #10           | is controlled by | TREA 14          | 100    | 131-Thermal Oxidizer             | CE020                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 19          | 100    | 050-Packed-Gas Absorption Column | CE009                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 25          | 0      | 050-Packed-Gas Absorption Column | Null                         | 4/10/2018                  | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 27          | 0      | 131-Thermal Oxidizer             | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                    |                      |                         | sends to         | STRU 8           | 0      | Stack/Vent                       | SV003                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 22          | 100    | Stack/Vent                       | SV029                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 57          | 0      | Stack/Vent                       | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 66            | EU053                | Fermenter #11           | is controlled by | TREA 14          | 100    | 131-Thermal Oxidizer             | CE020                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 19          | 100    | 050-Packed-Gas Absorption Column | CE009                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 25          | 0      | 050-Packed-Gas Absorption Column | Null                         | 4/10/2018                  | Null                     |  |
|                          |                                   |                    |                      |                         |                  | TREA 27          | 0      | 131-Thermal Oxidizer             | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   |                    |                      |                         | sends to         | STRU 8           | 0      | Stack/Vent                       | SV003                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 22          | 100    | Stack/Vent                       | SV029                        | 1/1/2007                   | Null                     |  |
|                          |                                   |                    |                      |                         |                  | STRU 57          | 0      | Stack/Vent                       | Null                         | 2/1/2024                   | Null                     |  |
|                          |                                   | EQUI 68            | EU068                | Slurry Tank             | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column | CE005                        | 8/1/1998                   | Null                     |  |
|                          |                                   |                    |                      |                         | sends to         | STRU 13          | 100    | Stack/Vent                       | SV010                        | 8/1/1998                   | Null                     |  |
|                          |                                   | EQUI 71            | EU071                | Ethanol Loading Rack #2 | is controlled by | TREA 6           | 100    | 023-Flaring                      | CE015                        | 8/9/2002                   | Null                     |  |

## Relationships

AI ID (Name): 715 (POET Biorefining - Preston)

Activity: IND20230001

| SI Category Equipment  | SI Type                     | Subject Item ID | Delta Designation | Description                 | Relationship     | Related SI ID | % Flow | Related SI Type                               | Related Delta Designation | Relationship Start Date | Relationship End Date |  |
|------------------------|-----------------------------|-----------------|-------------------|-----------------------------|------------------|---------------|--------|-----------------------------------------------|---------------------------|-------------------------|-----------------------|--|
| Fermentation Equipment | Fermentation Equipment      | EQUI 71         | EU071             | Ethanol Loading Rack #2     | sends to         | STRU 16       | 100    | Stack/Vent                                    | SV015                     | 8/9/2002                | Null                  |  |
|                        |                             | EQUI 205        | Null              | Fermenter #12               | is controlled by | TREA 14       | 100    | 131-Thermal Oxidizer                          | CE020                     | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 19       | 100    | 050-Packed-Gas Absorption Column              | CE009                     | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 25       | 0      | 050-Packed-Gas Absorption Column              | Null                      | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/1/2024                | Null                  |  |
|                        |                             |                 |                   |                             | sends to         | STRU 8        | 0      | Stack/Vent                                    | SV003                     | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | STRU 22       | 100    | Stack/Vent                                    | SV029                     | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/1/2024                | Null                  |  |
|                        |                             | EQUI 206        | Null              | Fermenter #13               | is controlled by | TREA 14       | 100    | 131-Thermal Oxidizer                          | CE020                     | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 19       | 100    | 050-Packed-Gas Absorption Column              | CE009                     | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 25       | 0      | 050-Packed-Gas Absorption Column              | Null                      | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/1/2024                | Null                  |  |
|                        |                             |                 |                   |                             | sends to         | STRU 8        | 0      | Stack/Vent                                    | SV003                     | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | STRU 22       | 100    | Stack/Vent                                    | SV029                     | 4/10/2018               | Null                  |  |
|                        |                             |                 |                   |                             |                  | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/1/2024                | Null                  |  |
|                        |                             | EQUI 217        | Null              | Yeast Tank #2               | is controlled by | TREA 17       | 100    | 050-Packed-Gas Absorption Column              | CE005                     | 12/21/2018              | Null                  |  |
|                        |                             |                 |                   |                             | sends to         | STRU 13       | 100    | Stack/Vent                                    | SV010                     | 12/21/2018              | Null                  |  |
|                        |                             | EQUI 236        | Null              | Fermenter #14               | is controlled by | TREA 14       | 100    | 131-Thermal Oxidizer                          | CE020                     | 11/4/2020               | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 19       | 100    | 050-Packed-Gas Absorption Column              | CE009                     | 11/4/2020               | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 25       | 0      | 050-Packed-Gas Absorption Column              | Null                      | 11/4/2020               | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 11/4/2020               | Null                  |  |
|                        |                             |                 |                   |                             | sends to         | STRU 8        | 0      | Stack/Vent                                    | SV003                     | 11/4/2020               | Null                  |  |
|                        |                             |                 |                   |                             |                  | STRU 22       | 100    | Stack/Vent                                    | SV029                     | 11/4/2020               | Null                  |  |
|                        |                             |                 |                   |                             |                  | STRU 57       | 0      | Stack/Vent                                    | Null                      | 11/4/2020               | Null                  |  |
|                        |                             | EQUI 237        | Null              | Fermenter #15               | is controlled by | TREA 14       | 100    | 131-Thermal Oxidizer                          | CE020                     | 2/5/2021                | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 19       | 100    | 050-Packed-Gas Absorption Column              | CE009                     | 2/5/2021                | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 25       | 0      | 050-Packed-Gas Absorption Column              | Null                      | 2/5/2021                | Null                  |  |
|                        |                             |                 |                   |                             |                  | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/5/2021                | Null                  |  |
|                        |                             |                 |                   |                             | sends to         | STRU 8        | 0      | Stack/Vent                                    | SV003                     | 2/5/2021                | Null                  |  |
|                        |                             |                 |                   |                             |                  | STRU 22       | 100    | Stack/Vent                                    | SV029                     | 2/5/2021                | Null                  |  |
|                        |                             |                 |                   |                             |                  | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/5/2021                | Null                  |  |
|                        | Liquefaction Equipment      | EQUI 69         | EU069             | Yeast Tank #1               | is controlled by | TREA 17       | 100    | 050-Packed-Gas Absorption Column              | CE005                     | 8/1/1998                | Null                  |  |
|                        |                             |                 |                   |                             | sends to         | STRU 13       | 100    | Stack/Vent                                    | SV010                     | 8/1/1998                | Null                  |  |
|                        |                             | EQUI 70         | EU070             | 190 Production Rundown Tank | is controlled by | TREA 17       | 100    | 050-Packed-Gas Absorption Column              | CE005                     | 8/1/2002                | Null                  |  |
|                        |                             |                 |                   |                             | sends to         | STRU 13       | 100    | Stack/Vent                                    | SV010                     | 8/1/2002                | Null                  |  |
|                        | Loading-Unloading Equipment | EQUI 28         | EU059             | Grain Receiving Pit 2       | is controlled by | TREA 11       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                     | 9/1/2007                | Null                  |  |
|                        |                             |                 |                   |                             | sends to         | STRU 23       | 100    | Stack/Vent                                    | SV030                     | 9/1/2007                | Null                  |  |
|                        |                             | EQUI 67         | EU023             | Ethanol Loading Rack #1     | is controlled by | TREA 6        | 100    | 023-Flaring                                   | CE015                     | 8/1/1998                | Null                  |  |
|                        |                             |                 |                   |                             | sends to         | STRU 16       | 100    | Stack/Vent                                    | SV015                     | 8/1/1998                | Null                  |  |

Relationships

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category | SI Type                     | Subject Item ID | Delta Designation | Description                        | Relationship     | Related SI ID | % Flow | Related SI Type                               | Related Delta Designation | Relationship Start Date | Relationship End Date |  |
|-------------|-----------------------------|-----------------|-------------------|------------------------------------|------------------|---------------|--------|-----------------------------------------------|---------------------------|-------------------------|-----------------------|--|
| Equipment   | Material Handling Equipment | EQUI 1          | EU001             | Grain Receiving Pit 1              | is controlled by | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 7/21/1997               | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 7/21/1997               | Null                  |  |
|             |                             | EQUI 195        | Null              | Whole Stillage Tank                | is controlled by | TREA 14       | 0      | 131-Thermal Oxidizer                          | CE020                     | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    |                  | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/1/2024                | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 22       | 0      | Stack/Vent                                    | SV029                     | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    |                  | STRU 45       | 100    | Stack/Vent                                    | Null                      | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    |                  | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/1/2024                | Null                  |  |
|             |                             |                 |                   |                                    |                  |               |        |                                               |                           |                         |                       |  |
|             |                             | EQUI 196        | Null              | Thin Stillage Tank                 | is controlled by | TREA 14       | 0      | 131-Thermal Oxidizer                          | CE020                     | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    |                  | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/1/2024                | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 22       | 0      | Stack/Vent                                    | SV029                     | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    |                  | STRU 46       | 100    | Stack/Vent                                    | Null                      | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    |                  | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/1/2024                | Null                  |  |
|             |                             |                 |                   |                                    |                  |               |        |                                               |                           |                         |                       |  |
|             |                             | EQUI 197        | Null              | Syrup Tank #1                      | is controlled by | TREA 14       | 0      | 131-Thermal Oxidizer                          | CE020                     | 1/1/2002                | Null                  |  |
|             |                             |                 |                   |                                    |                  | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/1/2024                | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 22       | 0      | Stack/Vent                                    | SV029                     | 1/1/2002                | Null                  |  |
|             |                             |                 |                   |                                    |                  | STRU 47       | 100    | Stack/Vent                                    | Null                      | 1/1/2002                | Null                  |  |
|             |                             |                 |                   |                                    |                  | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/1/2024                | Null                  |  |
|             |                             |                 |                   |                                    |                  |               |        |                                               |                           |                         |                       |  |
|             |                             | EQUI 211        | Null              | Syrup Tank #2                      | is controlled by | TREA 14       | 0      | 131-Thermal Oxidizer                          | CE020                     | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    |                  | TREA 27       | 0      | 131-Thermal Oxidizer                          | Null                      | 2/1/2024                | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 22       | 0      | Stack/Vent                                    | SV029                     | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    |                  | STRU 48       | 100    | Stack/Vent                                    | Null                      | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    |                  | STRU 57       | 0      | Stack/Vent                                    | Null                      | 2/1/2024                | Null                  |  |
|             |                             |                 |                   |                                    |                  |               |        |                                               |                           |                         |                       |  |
|             | Milling Equipment           | EQUI 24         | EU054             | Hammermill 1                       | is controlled by | TREA 7        | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE016                     | 8/22/2006               | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 29       | 100    | Stack/Vent                                    | SV025                     | 8/22/2006               | Null                  |  |
|             |                             | EQUI 25         | EU055             | Hammermill 2                       | is controlled by | TREA 8        | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE017                     | 8/22/2006               | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 30       | 100    | Stack/Vent                                    | SV026                     | 8/22/2006               | Null                  |  |
|             |                             | EQUI 26         | EU056             | Hammermill 3                       | is controlled by | TREA 9        | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE018                     | 8/22/2006               | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 31       | 100    | Stack/Vent                                    | SV027                     | 8/22/2006               | Null                  |  |
|             |                             | EQUI 27         | EU057             | Hammermill 4                       | is controlled by | TREA 10       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE019                     | 8/22/2006               | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 32       | 100    | Stack/Vent                                    | SV028                     | 8/22/2006               | Null                  |  |
|             |                             | EQUI 234        | Null              | Hammermill 5                       | is controlled by | TREA 26       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | Null                      | 11/4/2020               | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 58       | 100    | Stack/Vent                                    | Null                      | 11/4/2020               | Null                  |  |
|             | Other Emission Unit         | EQUI 3          | EU003             | Scalper                            | is controlled by | TREA 15       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                     | 7/21/1997               | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 33       | 100    | Stack/Vent                                    | SV001                     | 7/21/1997               | Null                  |  |
|             | Reciprocating IC Engine     | EQUI 218        | Null              | Emergency Diesel Generator         | sends to         | STRU 42       | 100    | Stack/Vent                                    | Null                      | 4/18/2018               | Null                  |  |
|             | Rolling Equipment           | EQUI 33         | EU064             | Hi-Roller Bin Unloading Conveyor 1 | is controlled by | TREA 11       | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                     | 10/1/2007               | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 23       | 100    | Stack/Vent                                    | SV030                     | 10/1/2007               | Null                  |  |
|             | Separation Equipment        | EQUI 4          | EU012             | Molecular Sieves #1                | is controlled by | TREA 17       | 100    | 050-Packed-Gas Absorption Column              | CE005                     | 8/17/1998               | Null                  |  |
|             |                             |                 |                   |                                    | sends to         | STRU 13       | 100    | Stack/Vent                                    | SV010                     | 8/17/1998               | Null                  |  |



Relationships

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category<br>Equipment | SI Type              | Subject Item<br>ID | Delta<br>Designation | Description            | Relationship     | Related SI<br>ID | % Flow | Related SI Type                               | Related Delta<br>Designation | Relationship<br>Start Date | Relationship<br>End Date |  |
|--------------------------|----------------------|--------------------|----------------------|------------------------|------------------|------------------|--------|-----------------------------------------------|------------------------------|----------------------------|--------------------------|--|
| Separation Equipment     | Separation Equipment | EQUI 83            | EU048                | DDG Separating Cyclone | is controlled by | TREA 20          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE010                        | 8/1/2002                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 17          | Null   | Stack/Vent                                    | SV016                        | 8/1/2002                   | Null                     |  |
|                          |                      | EQUI 194           | Null                 | Molecular Sieves #2    | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 7/1/2002                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 7/1/2002                   | Null                     |  |
|                          |                      | EQUI 203           | Null                 | Corn Oil System        | is controlled by | TREA 14          | 100    | 131-Thermal Oxidizer                          | CE020                        | 8/15/2013                  | Null                     |  |
|                          |                      |                    |                      |                        |                  | TREA 27          | 0      | 131-Thermal Oxidizer                          | Null                         | 2/1/2024                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 22          | 100    | Stack/Vent                                    | SV029                        | 8/15/2013                  | Null                     |  |
|                          |                      |                    |                      |                        |                  | STRU 57          | 0      | Stack/Vent                                    | Null                         | 2/1/2024                   | Null                     |  |
|                          |                      | EQUI 204           | Null                 | Flour Receiver         | sends to         | STRU 43          | 100    | Stack/Vent                                    | Null                         | 4/10/2018                  | Null                     |  |
|                          |                      | EQUI 213           | EU041                | Flour Receiver         | sends to         | STRU 18          | 100    | Stack/Vent                                    | SV020                        | 7/16/2001                  | Null                     |  |
|                          |                      | EQUI 214           | Null                 | Centrifuge 1           | is controlled by | TREA 14          | 100    | 131-Thermal Oxidizer                          | CE020                        | 9/1/2007                   | Null                     |  |
|                          |                      |                    |                      |                        |                  | TREA 27          | 0      | 131-Thermal Oxidizer                          | Null                         | 2/1/2024                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 22          | 100    | Stack/Vent                                    | SV029                        | 9/1/2007                   | Null                     |  |
|                          |                      |                    |                      |                        |                  | STRU 41          | 0      | Stack/Vent                                    | Null                         | 9/17/1998                  | Null                     |  |
|                          |                      |                    |                      |                        |                  | STRU 57          | 0      | Stack/Vent                                    | Null                         | 2/1/2024                   | Null                     |  |
|                          |                      | EQUI 215           | Null                 | Centrifuge 2           | is controlled by | TREA 14          | 100    | 131-Thermal Oxidizer                          | CE020                        | 9/1/2007                   | Null                     |  |
|                          |                      |                    |                      |                        |                  | TREA 27          | 0      | 131-Thermal Oxidizer                          | Null                         | 2/1/2024                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 22          | 100    | Stack/Vent                                    | SV029                        | 9/1/2007                   | Null                     |  |
|                          |                      |                    |                      |                        |                  | STRU 41          | 0      | Stack/Vent                                    | Null                         | 9/17/1998                  | Null                     |  |
|                          |                      |                    |                      |                        |                  | STRU 57          | 0      | Stack/Vent                                    | Null                         | 2/1/2024                   | Null                     |  |
|                          |                      | EQUI 216           | Null                 | Centrifuge 3           | is controlled by | TREA 14          | 100    | 131-Thermal Oxidizer                          | CE020                        | 9/1/2007                   | Null                     |  |
|                          |                      |                    |                      |                        |                  | TREA 27          | 0      | 131-Thermal Oxidizer                          | Null                         | 2/1/2024                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 22          | 100    | Stack/Vent                                    | SV029                        | 9/1/2007                   | Null                     |  |
|                          |                      |                    |                      |                        |                  | STRU 41          | 0      | Stack/Vent                                    | Null                         | 9/17/1998                  | Null                     |  |
|                          |                      |                    |                      |                        |                  | STRU 57          | 0      | Stack/Vent                                    | Null                         | 2/1/2024                   | Null                     |  |
| Silo/Bin                 | Silo/Bin             | EQUI 11            | EU031                | DDGS Silo              | is controlled by | TREA 20          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE010                        | 3/1/2002                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 17          | 100    | Stack/Vent                                    | SV016                        | 3/1/2002                   | Null                     |  |
|                          |                      | EQUI 29            | EU060                | Grain Storage Bin 7    | is controlled by | TREA 11          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                        | 9/1/2007                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 23          | 100    | Stack/Vent                                    | SV030                        | 9/1/2007                   | Null                     |  |
|                          |                      | EQUI 30            | EU061                | Grain Storage Bin 8    | is controlled by | TREA 11          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                        | 9/1/2007                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 23          | 100    | Stack/Vent                                    | SV030                        | 9/1/2007                   | Null                     |  |
|                          |                      | EQUI 31            | EU062                | Grain Storage Bin 9    | is controlled by | TREA 11          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE021                        | 9/1/2007                   | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 23          | 100    | Stack/Vent                                    | SV030                        | 9/1/2007                   | Null                     |  |
|                          |                      | EQUI 47            | EU004                | Grain Storage Bin 1    | is controlled by | TREA 15          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                        | 7/21/1997                  | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 33          | 100    | Stack/Vent                                    | SV001                        | 7/21/1997                  | Null                     |  |
|                          |                      | EQUI 48            | EU005                | Grain Storage Bin 2    | is controlled by | TREA 15          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                        | 7/21/1997                  | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 33          | 100    | Stack/Vent                                    | SV001                        | 7/21/1997                  | Null                     |  |
|                          |                      | EQUI 49            | EU006                | Grain Storage Bin 3    | is controlled by | TREA 15          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                        | 7/21/1997                  | Null                     |  |
|                          |                      |                    |                      |                        | sends to         | STRU 33          | 100    | Stack/Vent                                    | SV001                        | 7/21/1997                  | Null                     |  |

Relationships

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| SI Category<br>Equipment | SI Type<br>Silo/Bin | Subject Item<br>ID | Delta<br>Designation | Description             | Relationship     | Related SI<br>ID | % Flow | Related SI Type                               | Related Delta<br>Designation | Relationship<br>Start Date | Relationship<br>End Date |  |
|--------------------------|---------------------|--------------------|----------------------|-------------------------|------------------|------------------|--------|-----------------------------------------------|------------------------------|----------------------------|--------------------------|--|
|                          |                     | EQUI 50            | EU007                | Grain Storage Bin 4     | is controlled by | TREA 15          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                        | 7/21/1997                  | Null                     |  |
|                          |                     |                    |                      |                         | sends to         | STRU 33          | 100    | Stack/Vent                                    | SV001                        | 7/21/1997                  | Null                     |  |
|                          |                     | EQUI 51            | EU030                | Grain Storage Bin 5     | is controlled by | TREA 15          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                        | 8/1/2002                   | Null                     |  |
|                          |                     |                    |                      |                         | sends to         | STRU 33          | 100    | Stack/Vent                                    | SV001                        | 8/1/2002                   | Null                     |  |
|                          |                     | EQUI 52            | EU049                | Grain Bin 6 (Surge Bin) | is controlled by | TREA 15          | 100    | 018-Fabric Filter - Low Temp, T<180 Degrees F | CE001                        | 8/1/1998                   | Null                     |  |
|                          |                     |                    |                      |                         | sends to         | STRU 33          | 100    | Stack/Vent                                    | SV001                        | 8/1/1998                   | Null                     |  |
|                          | Stripping Equipment | EQUI 17            | EU042                | Beer Stripper #2        | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 3/1/2002                   | Null                     |  |
|                          |                     |                    |                      |                         | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 3/1/2002                   | Null                     |  |
|                          |                     | EQUI 53            | EU009                | Beer Stripper #1        | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 7/21/1997                  | Null                     |  |
|                          |                     |                    |                      |                         | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 7/21/1997                  | Null                     |  |
|                          |                     | EQUI 62            | EU044                | Side Stripper           | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 3/1/2002                   | Null                     |  |
|                          |                     |                    |                      |                         | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 3/1/2002                   | Null                     |  |
|                          |                     | EQUI 207           | Null                 | Beer Stripper #3        | is controlled by | TREA 17          | 100    | 050-Packed-Gas Absorption Column              | CE005                        | 4/10/2018                  | Null                     |  |
|                          |                     |                    |                      |                         | sends to         | STRU 13          | 100    | Stack/Vent                                    | SV010                        | 4/10/2018                  | Null                     |  |

Aboveground Storage Tanks

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item ID | Delta Designation | Description                             | Capacity (gal) | Construction Type      | Column Diameter (ft) | Number of Columns | Deck Type                     | Interior Diameter (ft) | Interior Height (ft) | Max True Vapor Pressure (psia) | Construction Type      | Seal Type                              | Support Type                            | Construction or Installation Start Date |  |
|-----------------|-------------------|-----------------------------------------|----------------|------------------------|----------------------|-------------------|-------------------------------|------------------------|----------------------|--------------------------------|------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|--|
| EQUI 34         | TK010             | 200 Proof Ethanol Storage Tank (T804)   | 186000         | Internal Floating Roof | 1                    | 1                 | Bolted, details not specified | 32                     | 32                   | 0.62                           | Internal Floating Roof | Resilient; vapor mounted primary only  | Column, construction type not specified | 7/13/1997                               |  |
| EQUI 35         | TK011             | 200 Proof Ethanol Storage Tank (T806)   | 1000000        | Internal Floating Roof | 1                    | 1                 | Bolted, details not specified | 60                     | 47                   | 0.62                           | Internal Floating Roof | Resilient; liquid mounted primary only | Column, construction type not specified | 7/31/2001                               |  |
| EQUI 36         | TK006             | 190 Proof Ethanol Storage Tank          | 70000          | Internal Floating Roof | 1                    | 1                 | Bolted, details not specified | 20                     | 30                   | 0.62                           | Internal Floating Roof | Resilient; liquid mounted primary only | Column, construction type not specified | Null                                    |  |
| EQUI 37         | TK012             | 200 Proof Ethanol Storage Tank (T803)   | 186000         | Internal Floating Roof | 1                    | 1                 | Bolted, details not specified | 32                     | 32                   | 0.62                           | Internal Floating Roof | Resilient; vapor mounted primary only  | Column, construction type not specified | Null                                    |  |
| EQUI 38         | TK013             | Denaturant Tank (T802)                  | 47000          | Internal Floating Roof | 1                    | 1                 | Bolted, details not specified | 16                     | 31                   | 7.89                           | Internal Floating Roof | Resilient; liquid mounted primary only | Column, construction type not specified | Null                                    |  |
| EQUI 212        | Null              | Corrosion Inhibitor Storage Tank (T852) | 1000           | Fixed Roof             | Null                 | Null              | Null                          | 4                      | 11                   | 3.2                            | Fixed Roof             | Null                                   | Null                                    | 11/1/1999                               |  |

FUGI

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item Type                    | Subject Item ID | Delta Designation | Description                                                   | Install Year | Pollutants Emitted         |  |
|--------------------------------------|-----------------|-------------------|---------------------------------------------------------------|--------------|----------------------------|--|
| Cooling Tower                        | FUGI 15         | Null              | Cooling Tower 1                                               | 1997         | Particulate Matter         |  |
|                                      | FUGI 16         | Null              | Cooling Tower 2                                               | 2002         | Particulate Matter         |  |
| Equipment Leaks                      | FUGI 7          | FS005             | Miscellaneous VOC Fugitives (non-tank farm) - Equipment Leaks | 1997         | Volatile Organic Compounds |  |
|                                      | FUGI 13         | FS009             | Tank Farm Fugitive VOCs - Equipment Leaks                     | 1997         | Volatile Organic Compounds |  |
|                                      | FUGI 20         | Null              | Fermenter and Beerwell Leaks (non-LDAR)                       | Null         | Null                       |  |
| Material Handling/ Transfer/ Storage | FUGI 12         | FS008             | Wet Cake Production - Material Handling/Transfer/Storage      | 1997         | HAPs - Total               |  |
|                                      |                 |                   |                                                               |              | Volatile Organic Compounds |  |
|                                      | FUGI 21         | Null              | Brewery Waste Receiving                                       | 2024         | Acetaldehyde               |  |
|                                      |                 |                   |                                                               |              | Acrolein                   |  |
|                                      |                 |                   |                                                               |              | Formaldehyde               |  |
|                                      |                 |                   |                                                               |              | Methanol                   |  |
|                                      |                 |                   |                                                               |              | Volatile Organic Compounds |  |
| Vehicle Emissions                    | FUGI 1          | FS001             | Truck Traffic - Paved Roads                                   | 1997         | Particulate Matter         |  |

Stack/Vents

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item ID | Delta Designation | Description                         | Stack Height (feet) | Stack Diameter (feet) | Stack Length (feet) | Stack Width (feet) | Stack Flow Rate (cubic ft/min) | Discharge Temperature (°F) | Flow Rate/Temp Information Source | Discharge Direction               |  |
|-----------------|-------------------|-------------------------------------|---------------------|-----------------------|---------------------|--------------------|--------------------------------|----------------------------|-----------------------------------|-----------------------------------|--|
| STRU 1          | SV017             | Boiler #2                           | 30                  | 2.8                   | Null                | Null               | 36,000                         | 410                        | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 8          | SV003             | Fermentation Scrubber (TREA19 & 25) | 30                  | 1                     | Null                | Null               | 2,700                          | 90                         | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 9          | SV004             | Rotary Dryer Vent to Atmosphere     | 100                 | 2.83                  | Null                | Null               | 26,400                         | 210                        | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 13         | SV010             | Distillation Scrubber (TREA17)      | 45                  | 0.67                  | Null                | Null               | 400                            | 90                         | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 16         | SV015             | Flare (TREA6)                       | 20                  | 0.33                  | Null                | Null               | 500                            | 1,400                      | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 17         | SV016             | DDGS Silo (TREA20)                  | 115                 | 1                     | Null                | Null               | 2,000                          | 80                         | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 18         | SV020             | Flour receiver (CE 006)             | 15                  | 1.8                   | Null                | Null               | 9,000                          | 80                         | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 20         | SV022             | Fluid Bed CE Stack (TREA22)         | 60                  | 4.58                  | Null                | Null               | 40,000                         | 210                        | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 21         | SV023             | Ring Dryer Vent to Atmosphere       | 60                  | 2.83                  | Null                | Null               | 26,400                         | 210                        | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 22         | SV029             | 3-Chambered RTO (TREA14)            | 100                 | 5.15                  | Null                | Null               | 83,309                         | 290                        | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 23         | SV030             | Receiving Pit #2 (TREA11)           | 117                 | 2.5                   | Null                | Null               | 12,000                         | 68                         | Manufacturer                      | Upwards with a cap on stack/vent  |  |
| STRU 29         | SV025             | Hammermill #1 (TREA7)               | 20                  | Null                  | 1.33                | 2.5                | 11,993                         | 80                         | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 30         | SV026             | Hammermill #2 (TREA8)               | 20                  | Null                  | 1.33                | 2.5                | 11,993                         | 80                         | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 31         | SV027             | Hammermill #3 (TREA9)               | 20                  | Null                  | 1.33                | 2.5                | 11,993                         | 80                         | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 32         | SV028             | Hammermill #4 (TREA10)              | 20                  | Null                  | 1.33                | 2.5                | 11,993                         | 80                         | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 33         | SV001             | Grain Handling Pit #1 (TREA15)      | 10                  | 1.33                  | Null                | Null               | 8,750                          | 80                         | Estimate                          | Upwards with a cap on stack/vent  |  |
| STRU 34         | SV011             | Boiler #1                           | 30                  | 2.67                  | Null                | Null               | 30,000                         | 410                        | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 41         | Null              | Centrifuges to Atmosphere           | 48                  | 0.5                   | Null                | Null               | 2,300                          | 200                        | Manufacturer                      | Upwards with a cap on stack/vent  |  |
| STRU 42         | Null              | Generator                           | 10                  | 18                    | Null                | Null               | 17,000                         | 800                        | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 43         | Null              | Flour Receiver (Replacement)        | 15                  | 1                     | Null                | Null               | 4,100                          | 80                         | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 45         | Null              | Whole Stillage Tank                 | 0.83                | 0.5                   | Null                | Null               | 0.1                            | 165                        | Estimate                          | Downward                          |  |
| STRU 46         | Null              | Thin Stillage Tank                  | 1.63                | 0.67                  | Null                | Null               | 0.1                            | 145                        | Estimate                          | Downward                          |  |
| STRU 47         | Null              | Syrup Tank #1                       | 2.67                | 0.67                  | Null                | Null               | 0.1                            | 175                        | Estimate                          | Downward                          |  |
| STRU 48         | Null              | Syrup Tank #2                       | 29.5                | 0.33                  | Null                | Null               | 0.1                            | 175                        | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 57         | Null              | RTO 2 Stack                         | 100                 | 5.35                  | Null                | Null               | 83,300                         | 290                        | Estimate                          | Upwards with no cap on stack/vent |  |
| STRU 58         | Null              | Hammermill #5 Stack                 | 20                  | Null                  | 1.33                | 2.5                | 12,000                         | 80                         | Estimate                          | Upwards with no cap on stack/vent |  |

Scrubbers

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item Type                | Subject Item ID | Delta Designation | Description                  | Manufacturer (Model #)       | Installation Start Date | Pollutants Controlled      | Capture Efficiency (%) | Destruction/Collect Efficiency (%) | Subject to CAM? | Large or Other PSEU? | Efficiency Basis | Other Basis Explanation | Min Pressure Drop (in. of water column) | Max Pressure Drop (in. of water column) | Min Liquid Flow Rate (gal/min) |  |
|----------------------------------|-----------------|-------------------|------------------------------|------------------------------|-------------------------|----------------------------|------------------------|------------------------------------|-----------------|----------------------|------------------|-------------------------|-----------------------------------------|-----------------------------------------|--------------------------------|--|
| 050-Packed-Gas Adsorption Column | TREA 17         | CE005             | Packed-Gas Adsorption Column | B&A (Custom)                 | 7/13/1997               | Volatile Organic Compounds | 100                    | 95                                 | Yes             | Other                | Test data        | Null                    | 2                                       | 8                                       | 10                             |  |
|                                  | TREA 19         | CE009             | Packed-Gas Adsorption Column | A&B Process Systems (Custom) | 11/20/2002              | Volatile Organic Compounds | 100                    | 95                                 | Yes             | Other                | Test data        | Null                    | 2                                       | 8                                       | 22                             |  |
|                                  | TREA 25         | Null              | Packed-Gas Adsorption Column | TBD (TBD)                    | TBD                     | Volatile Organic Compounds | 100                    | 95                                 | Yes             | Other                | Mfr/ Vendor data | Null                    | 2                                       | 12                                      | 22                             |  |

Other Controls

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item Type | Subject Item ID | Delta Designation | Description | Manufacturer (Model #)           | Installation Start Date | Pollutants Controlled      | Capture Efficiency (%) | Destruction/ Collect Efficiency (%) | Subject to CAM? | Large or Other PSEU? | Efficiency Basis | Other Basis Explanation | Other operating parameters? | Other operating parameters description |  |
|-------------------|-----------------|-------------------|-------------|----------------------------------|-------------------------|----------------------------|------------------------|-------------------------------------|-----------------|----------------------|------------------|-------------------------|-----------------------------|----------------------------------------|--|
| 023-Flaring       | TREA 6          | CE015             | Flaring     | John Zink ( LHT-1.0-12-20-x-1/6) | 7/13/1997               | Volatile Organic Compounds | 100                    | 98                                  | Yes             | Other                | Mfr/ Vendor data | Null                    | No                          | Null                                   |  |

Fabric Filters

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item Type                             | Subject Item ID | Delta Designation | Description           | Manufacturer (Model #)            | Installation Start Date | Pollutants Controlled | Capture Efficiency (%) | Destruction/Collect Efficiency (%) | Subject to CAM? | Large or Other PSEU? | Efficiency Basis       | Other Basis Explanation | Filter Min Pressure Drop (in. of w.c.) | Filter Max Pressure Drop (in. of w.c.) | Bag leak detector in use? |  |
|-----------------------------------------------|-----------------|-------------------|-----------------------|-----------------------------------|-------------------------|-----------------------|------------------------|------------------------------------|-----------------|----------------------|------------------------|-------------------------|----------------------------------------|----------------------------------------|---------------------------|--|
| 018-Fabric Filter - Low Temp, T<180 Degrees F | TREA 7          | CE016             | Hammermill #1         | MAC (120LST100)                   | 7/13/1997               | Particulate Matter    | 100                    | 99                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 2.5 micron       | 100                    | 93                                 | Yes             | Other                | Other                  | assume same as PM10     | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 10 micron        | 100                    | 93                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               | TREA 8          | CE017             | Hammermill #2         | MAC (120LST100)                   | 7/13/1997               | Particulate Matter    | 100                    | 99                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 2.5 micron       | 100                    | 93                                 | Yes             | Other                | Other                  | assume same as PM10     | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 10 micron        | 100                    | 93                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               | TREA 9          | CE018             | Hammermill #3         | MAC (96LST100)                    | 7/13/1997               | Particulate Matter    | 100                    | 99                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 2.5 micron       | 100                    | 93                                 | Yes             | Other                | Other                  | assume same as PM10     | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 10 micron        | 100                    | 93                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               | TREA 10         | CE019             | Hammermill #4         | MAC (120LST100)                   | 7/13/1997               | Particulate Matter    | 100                    | 99                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 2.5 micron       | 100                    | 93                                 | Yes             | Other                | Other                  | assume same as PM10     | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 10 micron        | 100                    | 93                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               | TREA 11         | CE021             | Grain Receiving #2    | MAC (96TS64)                      | 3/28/2007               | Particulate Matter    | 80                     | 99                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 2.5 micron       | 80                     | 93                                 | No              | Null                 | Other                  | assume same as PM10     | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 10 micron        | 80                     | 93                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               | TREA 15         | CE001             | Grain Receiving #1    | MAC (96TS64)                      | 7/13/1997               | Particulate Matter    | 80                     | 99                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 2.5 micron       | 80                     | 93                                 | No              | Null                 | Other                  | assume same as PM10     | 0.1                                    | 4                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 10 micron        | 80                     | 93                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 4                                      | No                        |  |
|                                               | TREA 20         | CE010             | Silo Baghouse         | MAC (39FRBC39)                    | 4/12/2001               | Particulate Matter    | 100                    | 99                                 | No              | Null                 | Control Equipment Rule | Null                    | 0.1                                    | 3                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 2.5 micron       | 100                    | 93                                 | No              | Null                 | Other                  | assume same as PM10     | 0.1                                    | 3                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 10 micron        | 100                    | 93                                 | No              | Null                 | Control Equipment Rule | Null                    | 0.1                                    | 3                                      | No                        |  |
|                                               | TREA 22         | CE013             | Fluid Bed Baghouse    | Barr Rosin (4815 Model 120 TA-SB) | 7/13/1997               | Particulate Matter    | 100                    | 99                                 | No              | Null                 | Control Equipment Rule | Null                    | 0.1                                    | 3                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 2.5 micron       | 100                    | 93                                 | No              | Null                 | Other                  | assume same as PM10     | 0.1                                    | 3                                      | No                        |  |
|                                               |                 |                   |                       |                                   |                         | PM < 10 micron        | 100                    | 93                                 | No              | Null                 | Control Equipment Rule | Null                    | 0.1                                    | 3                                      | No                        |  |
| TREA 26                                       | Null            |                   | Hammermill 5 Baghouse | TBD (TBD)                         | TBD                     | Particulate Matter    | 100                    | 99                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 6                                      | No                        |  |



Fabric Filters

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item Type                             | Subject Item ID | Delta Designation | Description           | Manufacturer (Model #) | Installation Start Date | Pollutants Controlled | Capture Efficiency (%) | Destruction/Collect Efficiency (%) | Subject to CAM? | Large or Other PSEU? | Efficiency Basis       | Other Basis Explanation | Filter Min Pressure Drop (in. of w.c.) | Filter Max Pressure Drop (in. of w.c.) | Bag leak detector in use? |  |
|-----------------------------------------------|-----------------|-------------------|-----------------------|------------------------|-------------------------|-----------------------|------------------------|------------------------------------|-----------------|----------------------|------------------------|-------------------------|----------------------------------------|----------------------------------------|---------------------------|--|
| 018-Fabric Filter - Low Temp, T<180 Degrees F | TREA 26         | Null              | Hammermill 5 Baghouse | TBD (TBD)              | TBD                     | PM < 2.5 micron       | 100                    | 93                                 | Yes             | Other                | Other                  | assume same as PM10     | 0.1                                    | 6                                      | No                        |  |
|                                               |                 |                   |                       |                        |                         | PM < 10 micron        | 100                    | 93                                 | Yes             | Other                | Control Equipment Rule | Null                    | 0.1                                    | 6                                      | No                        |  |

Direct Flame Afterburners

AI ID (Name): 715 (POET Biorefining - Preston)  
Activity: IND20230001

| Subject Item Type    | Subject Item ID | Delta Designation | Description      | Manufacturer (Model #)  | Installation Start Date | Pollutants Controlled      | Capture Efficiency (%) | Destruction/Collect Efficiency (%) | Efficiency Basis | Other Basis Explanation | TO Burner Capacity (MMBTU/hr) | Inlet Temp/Outlet Temp (°F) | TO Min Combustion Temperature (°F) | TO Residence Time (secs) |  |
|----------------------|-----------------|-------------------|------------------|-------------------------|-------------------------|----------------------------|------------------------|------------------------------------|------------------|-------------------------|-------------------------------|-----------------------------|------------------------------------|--------------------------|--|
| 131-Thermal Oxidizer | TREA 14         | CE020             | Thermal Oxidizer | CECO (Kinemax Series G) | 3/3/2006                | Carbon Monoxide            | 100                    | 90                                 | Other            | Permit Condition        | 18                            | 281/336                     | 1,634                              | 4.2                      |  |
|                      |                 |                   |                  |                         |                         | Particulate Matter         | 100                    | 80                                 | Other            | Permit Condition        | 18                            | 281/336                     | 1,634                              | 4.2                      |  |
|                      |                 |                   |                  |                         |                         | PM < 2.5 micron            | 100                    | 80                                 | Other            | Permit Condition        | 18                            | 281/336                     | 1,634                              | 4.2                      |  |
|                      |                 |                   |                  |                         |                         | PM < 10 micron             | 100                    | 80                                 | Other            | Permit Condition        | 18                            | 281/336                     | 1,634                              | 4.2                      |  |
|                      |                 |                   |                  |                         |                         | Volatile Organic Compounds | 100                    | 95                                 | Other            | Permit Condition        | 18                            | 281/336                     | 1,634                              | 4.2                      |  |
|                      | TREA 27         | Null              | RTO 2            | TBD (TBD)               | TBD                     | Carbon Monoxide            | 100                    | 90                                 | Other            | Permit Condition        | 30                            | 285/320                     | 1,634                              | 4.2                      |  |
|                      |                 |                   |                  |                         |                         | Particulate Matter         | 100                    | 80                                 | Other            | Permit Condition        | 30                            | 285/320                     | 1,634                              | 4.2                      |  |
|                      |                 |                   |                  |                         |                         | PM < 2.5 micron            | 100                    | 80                                 | Other            | Permit Condition        | 30                            | 285/320                     | 1,634                              | 4.2                      |  |
|                      |                 |                   |                  |                         |                         | PM < 10 micron             | 100                    | 80                                 | Other            | Permit Condition        | 30                            | 285/320                     | 1,634                              | 4.2                      |  |
|                      |                 |                   |                  |                         |                         | Volatile Organic Compounds | 100                    | 95                                 | Other            | Permit Condition        | 30                            | 285/320                     | 1,634                              | 4.2                      |  |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TFAC 1 | 1        | The Permittee must limit Production $\leq$ 80,000 million gallons per year 12-month rolling sum of undenatured ethanol production to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                          |
| TFAC 1 | 2        | The Permittee must limit Process Throughput $\leq$ 4,000 million gallons per year 12-month rolling sum of denaturant loadout to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TFAC 1 | 3        | The Permittee must limit Process Throughput $\leq$ 814,600 tons per year 12-month rolling sum of grain received to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TFAC 1 | 4        | The Permittee must limit Process Throughput $\leq$ 221,920 tons per year 12-month rolling sum of dried distiller's grains with solubles (DDGS) and modified distiller's grains with solubles (MDGS) handled in the DDGS loadout equipment, to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit.<br><br>MDGS is subject to the same requirements as DDGS. The Permittee is not allowed to adjust the weight of DDGS or MDGS handled in the DDGS loadout equipment, as identified in the loadout receipts, to account for moisture content unless the permit contains specific provisions for monitoring, recordkeeping, and reporting the moisture content of the MDGS and DDGS. This limit does not apply to MDGS handled at the wetcake pad. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| TFAC 1 | 5        | Daily Undenatured Ethanol Production Recordkeeping: For each day of operation, the Permittee shall record and maintain records of the undenatured ethanol production in gallons for the previous day. This shall be based on flow meters of product exiting the molecular sieves. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                             |
| TFAC 1 | 6        | Daily Denaturant Throughput Recordkeeping: For each day of operation, the Permittee shall record and maintain records of the denaturant throughput in gallons for the previous day. This shall be based on flow meters at the ethanol loadout rack. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TFAC 1 | 7        | Daily Grain Throughput Recordkeeping: For each day of operation, the Permittee shall record and maintain records of the tons of grain received by the facility for the previous day. This shall be based on grain receipts. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TFAC 1 | 8        | Daily DDGS and MDGS Throughput Recordkeeping: For each day of operation, the Permittee shall record and maintain records of the tons of DDGS and MDGS Loadout by the facility for the previous day. This shall be based on loadout receipts. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TFAC 1 | 9        | Monthly Undenatured Ethanol Production Recordkeeping: By the 15th day of each month, the Permittee must calculate and record the following:<br><br>1) The monthly gallons of undenatured ethanol produced during the previous month based on summing the daily undenatured ethanol production records, based on the volume of ethanol leaving the molecular sieves, for that month, and<br><br>2) The 12-month rolling sum of undenatured ethanol production for the previous 12-month period by summing the monthly undenatured ethanol production records, based on the volume of ethanol leaving the molecular sieves, for the previous 12 months. [Minn. R. 7011.0800, subps. 4-5]                                                                                                                                                                                                                 |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TFAC 1 | 10       | Monthly Denaturant Throughput Recordkeeping: By the 15th day of each month, the Permittee must calculate and record the following:<br><br>1) The monthly gallons of denaturant throughput during the previous month based on summing the daily denaturant loadout records for that month, and<br><br>2) The 12-month rolling sum of denaturant throughput for the previous 12-month period by summing the monthly denaturant loadout records for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                                    |
|        |          | Monthly Grain Throughput Recordkeeping: By the 15th day of each month, the Permittee must calculate and record the following:<br><br>1) The monthly tons of grain received the previous month based on summing the daily grain receipts for that month, and<br><br>2) The 12-month rolling sum of grain throughput for the previous 12-month period by summing the monthly grain receipts for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                                                                                       |
| TFAC 1 | 11       | Monthly DDGS and MDGS Throughput Recordkeeping: By the 15th day of each month, the Permittee must calculate and record the following:<br><br>1) The monthly tons of DDGS and MDGS loadout during the previous month based on summing the daily DDGS and MDGS loadout records for that month, and<br><br>2) The 12-month rolling sum of DDGS and MDGS loadout for the previous 12-month period by summing the monthly DDGS and MDGS loadout data for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                                 |
| TFAC 1 | 12       | Grain received by the facility shall only be used for production of ethanol and co-products by the Permittee at the POET Biorefining - Preston facility (ID No. 04500049). Grain is defined by 40 CFR 60.301 includes corn, wheat, sorghum, rice, rye, oats, barley or soybeans. All grain must be received at permitted receiving areas. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                         |
| TFAC 1 | 13       | The Permittee shall not use as ethanol feedstock any seed treated with neonicotinoid pesticide. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. Stat. 21.86, subd. 2(h)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TFAC 1 | 14       | Outdoor handling and storage of grain and DDGS or MDGS is prohibited, unless the operation is described and authorized in this permit. Grain received must be unloaded only in the grain-receiving buildings and stored in grain silos or equivalent. Corn and/or other grains may not be unloaded and stockpiled or stored outdoors on the ground or any other surface or in any other area of the facility except the designated storage silos. This limitation does not apply to wet cake or modified distiller's grains with solubles (MDGS) with a moisture content greater than 40%. The Permittee must minimize the time that MDGS remains on the wetcake pad such that it does not become a source of particulate matter emissions. [Minn. R. 7007.0800, subp. 2(A)] |
| TFAC 1 | 15       | Denaturant or gasoline received by the facility shall only be used as a denaturant of ethanol by the Permittee at the POET Biorefining - Preston facility (ID No. 04500049). [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TFAC 1 | 16       | The Permittee must limit Process Throughput <= 20.8 million gallons per year 12-month rolling sum of brewery waste received to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TFAC 1 | 17       | Process Throughput: Daily Brewery Waste Recordkeeping. On each day of operation the Permittee must record and maintain a record of the total quantity of brewery waste received. This must be recorded in written logs. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TFAC 1 | 18       | Process Throughput: Monthly Brewery Waste Recordkeeping. By the 15th of the month, the Permittee must calculate and record the following:<br>1) The total gallons of brewery waste received for the previous calendar month using the daily records; and<br>2) The 12-month rolling sum of brewery waste received for the previous 12-month period by summing the monthly brewery waste records for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                                                                                 |
| TFAC 1 | 19       | The Permittee must limit Process Throughput <= 375 trucks per day daily maximum for grain delivery. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TFAC 1 | 20       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TFAC 1 | 21       | Process Throughput: Grain Receiving Truck Traffic Daily Recordkeeping. On each day of operation the Permittee must calculate, record, and maintain a record of the number of trucks that delivered grain to the facility. This record must include the time of arrival and which grain receiving pit the truck delivered to. This must be recorded in written logs. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0200-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TFAC 1 | 22       | Process Flow Diagram: The Permittee must maintain an up to date process flow diagram of the facility. [Minn. R. 7007.0800, subp. 2(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TFAC 1 | 1240     | <p>Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in Appendices:</p> <p>Appendix A. Insignificant Activities and General Applicable Requirements</p> <p>Appendix B. 40 CFR pt. 60, subp. A - General Provisions</p> <p>Appendix C. Fugitive Dust Control Plan</p> <p>Appendix D. 40 CFR pt. 60, subp. IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines</p> <p>Appendix E. 40 CFR pt. 60, subp. VVa - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006, and On or Before April 25, 2023</p> <p>Appendix F. Ambient Air Boundary Control Strategy Plan Map</p> <p>Appendix G. 40 CFR pt. 60, subp. Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, and On or Before October 4, 2023</p> <p>Appendix H. Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations</p> <p>Appendix I. 40 CFR pt. 60, subp. DD - Standards of Performance for Grain Elevators. [Minn. R. 7007.0800, subp. 2(A) &amp; (B)]</p> |
| TFAC 1 | 2140     | <p>General Public Preclusion Plan – Boundary Map</p> <p>The Permittee must use fencing, control access points, place restriction signage, and remote monitoring as specified in Appendix F to maintain control over the effective fence line.</p> <p>Appendix F to this permit is a map that depicts the boundary at which the access of the general public can be controlled and compliance with the National Ambient Air Quality Standards (NAAQS) can be demonstrated. This boundary has been defined as the "effective fence line". Appendix F identifies the forms of control the Permittee will use to restrict access to the general public along portions of the effective fence line. The general public does not include employees or other categories of people who have been directly authorized by the property owner to enter or remain on the property for a limited period of time and for a specific purpose. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]</p>                                                                                                                                                                                                                                                                                                                                              |
| TFAC 1 | 2145     | <p>General Public Preclusion Plan</p> <p>This Plan must, at a minimum, contain the following information:</p> <ol style="list-style-type: none"> <li>1. A map of the facility that clearly displays the ambient air boundary. The map must indicate how access is precluded for each section of the boundary and must identify all access points (including roadways, power lines, rail spurs, etc.);</li> <li>2. Locations where fencing will be implemented;</li> <li>3. Restriction signage spacing (restriction signage may include notices such as "No Trespassing," "Private Property," "Do Not Enter," or "Restricted Area");</li> <li>4. Location of remote monitoring devices;</li> <li>5. Operation and maintenance requirements of remote monitoring software and devices;</li> <li>6. Contingency plans for downtime for remote monitoring software and devices; and</li> <li>7. A response plan for when breaches occur. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]</li> </ol>                                                                                                                                                                                                                                                                                                                                |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| TFAC 1 | 2150     | <p><b>Recordkeeping for Breaches of the Ambient Air Boundary</b></p> <p>Within three calendar days of each observed breach, the Permittee must document each instance that the ambient air boundary was breached by a member of the general public, including documenting the type, location, and duration of each breach. The Permittee must identify and, within a reasonable amount of time, implement measures to prevent future breaches, if necessary. A breach to the ambient boundary occurs when a member of the general public accesses property identified by the Permittee as non-ambient air.</p> <p>The observation of a breach may be direct or indirect. A direct observation includes witnessing a member of the general public on property identified as non-ambient air. Indirect observations rely on evidence of a breach, such as a cut fence, worn paths, motorized vehicle tracks, or other signs of disturbance by a member of the general public on property identified as non-ambient air.</p> <p>The Permittee must report each breach, including all steps taken or changes made to the General Public Preclusion Plan to prevent additional breaches, in the semiannual Deviations Report required by this permit. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]</p> |
| TFAC 1 | 2155     | <p><b>General Public Preclusion Plan - Fencing:</b></p> <p>The Permittee must install and maintain fencing along ambient air boundary effective fence line as depicted in Appendix F. The Permittee must inspect the fence line once per quarter. The Permittee must maintain records of inspection and required maintenance of fence line. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7007.0800, subp. 5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TFAC 1 | 2160     | <p><b>General Public Preclusion Plan - Control of Access:</b></p> <p>The Permittee must control access at any road, trail equal to or wider than 50 inches, and all abandoned railroad grades. The Permittee must secure these access points with a locked and/or monitored gate or other physical barrier precluding access by the general public. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TFAC 1 | 2170     | <p><b>General Public Preclusion Plan - Remote Monitoring:</b></p> <p>The Permittee must operate and maintain remote monitoring equipment to maintain the effective fence line as depicted in Appendix F. The Permittee must monitor at a minimum of once per day. Remote monitoring devices include but are not limited to fixed cameras and drone mounted cameras. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 4(D), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TFAC 1 | 3350     | <p>The Permittee must clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (reasonably available control technology). [Minn. R. 7011.1005, subp. 1(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TFAC 1 | 4090     | <p>This permit establishes limits on the facility to keep it a minor source under New Source Review and NESHAPs. The Permittee cannot make any change at the source that would make the source a major source under New Source Review and NESHAPs until a permit amendment has been issued. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TFAC 1 | 4100     | <p>The Permittee must submit an annual report by the 31st of January. The report must describe the changes made at the Facility during the previous calendar year using the latest MPCA application forms. The report must include information for any new, modified, or replaced Subject Items. The report must document the maximum actual material throughput, based on a three-hour block average as compared to the throughput limit over the reporting year. The report must be submitted with the annual Compliance Certification required by this permit. As part of the Annual Report, the Permittee must verify and certify that the Facility has maintained minor source status for New Source Review. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TFAC 1 | 4110     | <p><b>Equipment Labeling:</b> The Permittee must permanently affix a unique number to each emissions unit for tracking purposes. Each number must correlate the unit to the appropriate Subject Item number used in this permit. The number can be affixed by placard, stencil, or other means. The number must be maintained so that it is readable and visible at all times from a safe distance. If equipment is added, it must be given a new unique number; numbers from replaced or removed equipment must not be reused. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| TFAC 1 | 4120     | <p>Equipment Inventory: The Permittee must maintain a written list of all emissions units and control equipment on site. The Permittee must update the list to include any replaced, modified, or new equipment prior to making the change.</p> <p>The list must correlate the units to the Subject Item numbers used in this permit and must include the data on GI-04, GI-05B, GI-05C, and GI-05F. The date of construction must be the date the change was made for replaced, modified, or new equipment. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                                                                                                                                        |
| TFAC 1 | 7400     | <p>The Permittee must comply with Minn. Stat. 116.385. The Permittee may not use trichloroethylene at its permitted facility including in any manufacturing, processing, or cleaning processes, except as described in Minn. Stat. 116.385, subd. 2(b) and 4. This is a state-only requirement and is not enforceable by the U.S. Environmental Protection Agency (EPA) Administrator and citizens under the Clean Air Act. [Minn. R. 7007.0100, subp. 7(X), Minn. Stat. 116.385]</p>                                                                                                                                                                                                                                                                                                                    |
| TFAC 1 | 7420     | <p>PERMIT SHIELD: Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.</p> <p>This permit shall not alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance. [Minn. R. 7007.1800(A)(2)]</p> |
| TFAC 1 | 7440     | <p>Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and recordkeeping specified in the fugitive dust control plan in Appendix C of this permit. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors as requested by the Commissioner. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7009.0020, Minn. R. 7011.0150, Minn. Stat. 116.07, subd. 4a(a)]</p>                                                                                                                                                                                                                 |
| TFAC 1 | 7450     | <p>The Permittee must comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0090. Compliance must be demonstrated upon written request by the MPCA. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TFAC 1 | 7540     | <p>Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted. [Minn. R. 7011.0020]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TFAC 1 | 7550     | <p>The Permittee must at all times properly operate and maintain the facilities and systems of treatment and control and the appurtenances related to them that are installed or used by the Permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. [Minn. R. 7007.0800, subp. 16(J)]</p>                                                                                                                                                                                                                                                                      |
| TFAC 1 | 7560     | <p>Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O &amp; M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 16(J)]</p>       |
| TFAC 1 | 7570     | <p>Operation Changes: In any shutdown, breakdown, or deviation the Permittee must immediately or as soon as possible considering plant and personnel safety take all practical steps to modify operations to reduce the emission of any regulated air pollutant. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment are permitted to operate. [Minn. R. 7019.1000, subp. 4]</p>                                                                                                                                                                                                                                                                                                                                                                |
| TFAC 1 | 7580     | <p>Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150. [Minn. R. 7011.0150]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| TFAC 1 | 7590     | Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the U.S. Environmental Protection Agency (EPA) Administrator and citizens under the Clean Air Act. [Minn. R. 7030.0010-7030.0080]                                                                                                                                                                                                                                                                                                                            |
| TFAC 1 | 7600     | Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A). [Minn. R. 7007.0800, subp. 9(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TFAC 1 | 7610     | The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16. [Minn. R. 7007.0800, subp. 16]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TFAC 1 | 7620     | Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in this permit. [Minn. R. ch. 7017]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TFAC 1 | 7630     | Performance Test Notifications and Submittals:<br><br>Performance Test Notification and Plan: due 30 days before each Performance Test<br>Performance Test Pre-test Meeting: due seven days before each Performance Test<br>Performance Test Report: due 45 days after each Performance Test<br><br>The Notification, Test Plan, and Test Report must be submitted in a format specified by the commissioner. [Minn. R. 7017.2017, Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2]                                                                                                                                                                                       |
| TFAC 1 | 7640     | Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's follow up compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025, subp. 3]                                                                                                                                                                                                                          |
| TFAC 1 | 7650     | Monitoring Equipment Calibration - The Permittee shall either:<br><br>1. Calibrate or replace required monitoring equipment every 12 months; or<br>2. Calibrate at the frequency stated in the manufacturer's specifications.<br><br>For each monitor, the Permittee shall maintain a record of all calibrations, including the date conducted, and any corrective action that resulted. The Permittee shall include the calibration frequencies, procedures, and manufacturer's specifications (if applicable) in the Operations and Maintenance Plan. Any requirements applying to continuous emission monitors are listed separately in this permit. [Minn. R. 7007.0800, subp. 4(D)] |
| TFAC 1 | 7660     | Operation of Monitoring Equipment: Unless noted elsewhere in this permit, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system. [Minn. R. 7007.0800, subp. 4(D)]                                                                                                                                                                                                      |
| TFAC 1 | 7670     | Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, for five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A). [Minn. R. 7007.0800, subp. 5(C)]                                                                                                                                                     |
| TFAC 1 | 7680     | Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes. [Minn. R. 7007.0800, subp. 5(B)]                                                                                                                                                                                                                                                                                                                                                                             |
| TFAC 1 | 7690     | If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format. [Minn. R. 7007.1200, subp. 4]                     |



| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| TFAC 1 | 7770     | <p>Shutdown Notifications: Notify the commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the Permittee does not have advance knowledge of the shutdown, the Permittee must notify the commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in items A, B, and C of Minn. R. 7019.1000, subp. 3.</p> <p>At the time of notification, the owner or operator must inform the commissioner of the cause of the shutdown and the estimated duration. The owner or operator must notify the commissioner when the shutdown is over. [Minn. R. 7019.1000, subp. 3]</p>                                |
| TFAC 1 | 7780     | <p>Breakdown Notifications: Notify the commissioner within 24 hours of a breakdown of more than one hour of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in items A, B, and C of Minn. R. 7019.1000, subp. 2.</p> <p>At the time of notification or as soon as possible thereafter, the Permittee must inform the commissioner of the cause of the breakdown and the estimated duration. The Permittee must notify the commissioner when the breakdown is over. [Minn. R. 7019.1000, subp. 2]</p>                             |
| TFAC 1 | 7790     | <p>Notification of Deviations Endangering Human Health or the Environment: Immediately after discovery of the deviation or immediately after when the deviation reasonably should have been discovered, notify the commissioner either orally or by e-mail, or telephone the state duty officer at 800-422-0798 or 651-649-5451, of any deviation from permit conditions that could endanger human health or the environment. [Minn. R. 7019.1000, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                            |
| TFAC 1 | 7800     | <p>Notification of Deviations Endangering Human Health or the Environment Report: Within two working days of discovery, notify the commissioner in writing of any deviation from permit conditions that could endanger human health or the environment. Include the following information in this written description:</p> <ol style="list-style-type: none"> <li>1. the cause of the deviation;</li> <li>2. the exact dates of the period of the deviation, if the deviation has been corrected;</li> <li>3. whether or not the deviation has been corrected;</li> <li>4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and</li> <li>5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation. [Minn. R. 7019.1000, subp. 1]</li> </ol> |
| TFAC 1 | 7810     | <p>The Permittee must submit a semiannual deviations report : Due semiannually, by the 30th of January and July. The first semiannual report submitted by the Permittee must cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. Submit this on form DRF-2 (Deviation Reporting Form). If no deviations have occurred, submit the signed report certifying that there were no deviations. [Minn. R. 7007.0800, subp. 6(B)(2)]</p>                                                                                                                                                                                                                                          |
| TFAC 1 | 7830     | <p>Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.</p> <p>Upon adoption of a new or amended federal applicable requirement, and if there are three or more years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150 - 7007.1500]</p>                                                                                                                                                                                       |
| TFAC 1 | 7840     | <p>Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H). Performance testing deadlines from the General Provisions of 40 CFR pt. 60 and pt. 63 are examples of deadlines for which the MPCA does not have authority to grant extensions and therefore do not meet the requirements of Minn. R. 7007.1400, subp. 1(H). [Minn. R. 7007.1400, subp. 1(H)]</p>                                                                                                                                                                                                                                                                             |
| TFAC 1 | 7860     | <p>The Permittee must submit a compliance certification : Due annually, by the 31st of January (for the previous calendar year). Submit this on form CR-04 (Annual Compliance Certification Report). This report covers all deviations experienced during the calendar year. If no deviations have occurred, submit the signed report certifying that there were no deviations. [Minn. R. 7007.0800, subp. 6(D)]</p>                                                                                                                                                                                                                                                                                                                                                                                                       |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| TFAC 1 | 7870     | Within 15 days of a request from the Commissioner, the Permittee must provide a complete summary of all performance tests required at the facility including the subject item, pollutant, most recent test date (if applicable), and the date of the next test in an approved format. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TFAC 1 | 7890     | The Permittee shall submit an application for permit reissuance : Due 180 calendar days before Permit Expiration Date. [Minn. R. 7007.0400, subp. 2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TFAC 1 | 7900     | Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. Submit in a format specified by the Commissioner. [Minn. R. 7019.3000-7019.3100]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TFAC 1 | 7910     | Emission Fees: due 30 days after receipt of an MPCA bill. [Minn. R. 7002.0005-7002.0085]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COMG 4 | 1        | The Permittee must limit emissions of Nitrogen Oxides <= 65.3 tons per year 52-week rolling sum. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COMG 4 | 3        | Fuel Burned: natural gas only. [Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 4 | 4        | Weekly Fuel Usage Recordkeeping: On each week of operation, the Permittee shall calculate, record, and maintain records of the amount of natural gas combusted for each subject item in COMG 4 for the previous week. These records shall consist of purchase records, receipts, or fuel meter readings. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 4 | 5        | Weekly NOx Emissions Rolling Sum: On each week of operation, the Permittee must calculate and record the following:<br><br>1) The total amount of natural gas combusted in each subject item in COMG 4 for the previous calendar week based on the weekly fuel usage records for the previous 52 weeks;<br><br>2) The NOx emissions for the previous week using the formulas specified below in COMG 4 of this permit; and<br><br>3) The 52-week rolling sum of NOx emissions for the previous 52-week period by summing the weekly NOx emissions data for the previous 52-week period. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 4 | 6        | Weekly NOx Emissions Calculation: The Permittee shall calculate the weekly NOx emissions from the subject items in COMG 4 for the previous calendar week using the following equation:<br><br>$\text{NOx} = ((A1 \times B1 \times 1020) + (A2 \times B2 \times 1020) + (A3 \times B3 \times 1020)) / 2000$<br><br>Where:<br>NOx = weekly NOx emissions; tons/week.<br>A1 = NOx emission rate from the most recent performance test for EQUI 9 (Boiler 1). As of permit issuance, this is 0.04 lb/MMBtu; lb/MMBtu.<br>A2 = NOx emission rate from the most recent performance test for EQUI 14 (Boiler 2). As of permit issuance, this is 0.04 lb/MMBtu; lb/MMBtu.<br>A3 = NOx emission rate from the most recent performance test for STRU 22 (Dryers, and HRSG/TO). As of permit issuance, this is 0.066 lb/MMBtu; lb/MMBtu.<br>B1 = weekly fuel usage for EQUI 9 (Boiler 1) based on the weekly fuel usage records; MMscf/week.<br>B2 = weekly fuel usage for EQUI 14 (Boiler 2) based on the weekly fuel usage records; MMscf/week.<br>B3 = weekly fuel usage for STRU 22 (EQUI 20, EQUI 61, TREA 14) based on the weekly fuel usage records; MMscf/week.<br>1020 = natural gas conversion factor (1020 MMBtu per MMscf).<br>2000 = conversion factor (2000 pounds per ton). [Minn. R. 7007.0800, subps. 4-5] |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| COMG 12 |          | <p>Combined Hammermill Short-term Process Throughput &lt;= 81 tons per hour 3-hour average of combined flour throughput based on slurry density measurements (D4) , volumetric flow meters (V1-V3, W/F), pre-blend density measurements (D1) to be used in the calculations as detailed in the Protocol for Resetting Short-Term Process Throughput Limits.</p> <p>The Permittee must maintain at the facility adequate volumetric flow monitoring records and density measurements to demonstrate continuous compliance with these operating condition limitations. The facility must use a continuous hard-copy recorder or data acquisition system to take and record readings to comply with the process throughput limits as a 3-hour average. Any data acquisition system must be equipped with a computer historian, and be capable of providing the necessary records for calculating the required 3-hour averages. Missed readings and recorded values outside the range specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a, and must be reported. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I</p>                                                                                                                                                                                                                                                                             |
|         | 1        | <p>Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMG 12 |          | <p>Protocol for Resetting the Short-Term Process Throughput Limit:</p> <p>The Permittee shall conduct performance testing to measure the PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major source under 40 CFR</p> |
|         | 2        | <p>52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|         |          | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREAs 7-10 and 26.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2017, Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2]</p> |
| COMG 12 | 3        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|         |          | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMG 12 | 4        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|         |          | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COMG 12 | 5        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|         |          | <p>Monitoring and Recordkeeping Requirement for Short-Term Throughput Limit:</p> <p>The Permittee must monitor, record and maintain the following flow and density measurements, as needed to show compliance with a 3-hour block average, for use in calculating the combined flour throughput limit above:</p> <ol style="list-style-type: none"> <li>1. Pre-blend density measurements (D1) – either with the in-line density meter from the pre-blend tank to the slurry tank or a laboratory sample as described below.</li> <li>2. Slurry density measurements (D4) – either with an in-line slurry density meter leaving the slurry tank or laboratory sample as described below.</li> <li>3. Pre-Blend flow (V1) as measured by flow meter from Pre-Blend Tank to Slurry Tank</li> <li>4. City Water (Process water) flow (V2) as measured by flow meter from Process Water Tank to Slurry Tank</li> <li>5. Scrubber Water Flow (V3) as measured by flow meter from scrubbers to slurry tank. and</li> <li>6. Slurry Flow (V4) as measured by flow meters from slurry tank to fermentation tanks. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 12 | 6        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| COMG 12 | 7        | <p>Calculation Method for Combined Hammermill Short-term Process Throughput Rate in tons/hour (Step 1 of 2)</p> <p>Step 1: Determine the Mass flow rate of the water sources (WSx) entering the slurry tank and the water to flour mix (W/F or mash) leaving the slurry tank using density measurements and volumetric flow readings and Equation 1 below.</p> <p>Equation 1: Mass Flow Rate (lb/min) = Density (lb/gal) x Volumetric Flow Rate (gal/min)</p> <p>WS1 = D1 x V1<br/> WS2 = D2 x V2<br/> WS3 = D3 x V3<br/> W/F = D4 x V4</p> <p>Where:</p> <p>WS1 = Water Source 1 (Pre-blend water) mass flow rate (lb/min)<br/> WS2 = Water Source 2 (City water makeup) mass flow rate (lb/min)<br/> WS3 = Water Source 3 (Water from scrubbers) mass flow rate (lb/min)<br/> W/F = Mass of Water/Flour Mix (lb/min)<br/> D1 = Density (lb/gal) of WS1 as measured by pre-blend water density measurements (either density meter or samples) from pre-blend tank to slurry tank.<br/> D2 = Density (lb/gal) of WS2 = 8.33 lb/gal (constant)<br/> D3 = Density (lb/gal) of WS3 = 8.33 lb/gal (constant)<br/> D4 = Density (lb/gal) of W/F as measured by slurry density measurements (either density meter or samples) leaving the slurry tank<br/> V1 = Volumetric Flow rate of WS1 (gal/min) as measured by flow meter from Process Water Tank to Slurry Tank<br/> V2 = Volumetric Flow rate of WS2 (gal/min) as measured by flow meter from Process Water Tank to Slurry Tank<br/> V3 = Volumetric Flow rate of WS3 (gal/min) as measured by flow meter from scrubbers to slurry tank<br/> V4 = Volumetric Flow rate of W/F (gal/min) as measured by flow meter leaving the slurry tank. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 12 | 8        | <p>Calculation Method for Combined Hammermill Short-term Process Throughput Rate in tons/hour (Step 2 of 2)</p> <p>Step 2: Determine mass of flour using results of Equation 1 in Equation 2, and converting from lb/min to ton/hour</p> <p>Equation 2: Mass of Flour (ton/hour) = (W/F – (WS1+WS2+WS3)) x 60 min/hour / 2000 lbs/ton. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMG 12 | 9        | <p>Slurry Density (W/F) Based on Sampling. The Permittee may collect slurry samples leaving the slurry tank during any 3-hour period in lieu of relying upon the data from the slurry density meter. The Permittee shall determine the density in the on-site laboratory. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMG 12 | 10       | <p>Pre-Blend Water Density (D1) Based on Sampling. The Permittee may collect pre-blend water samples leaving the pre-blend tank during any 3-hour period in lieu of relying upon the data from the pre-blend water density meter. The Permittee shall determine the density in the on-site laboratory. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| COMG 13 | 1        | <p>Requirements to conduct speciated HAPs performance testing and operate air pollution control equipment (as applicable) for COMG 13 HAP emitting sources are found in Section 5 and Section 6 of this permit under the following subject items in this permit:</p> <ol style="list-style-type: none"> <li>1. COMG 14 and TREA 19/25 (Fermentation Scrubber)</li> <li>2. COMG 15 and TREA 17 (Distillation Scrubber)</li> <li>3. COMG 21 and TREA 14 (Regenerative Thermal Oxidizer)</li> <li>4. EQUI 23 (Fluid Bed Cooler) – vents to fabric filter (no HAP control)</li> <li>5. COMG 22 and TREA 27 (Regenerative Thermal Oxidizer)</li> </ol> <p>HAP emissions from all other COMG 13 subject items are uncontrolled. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                              |
| COMG 13 | 2        | <p>The following units will calculate HAP emissions using emission factors and Natural Gas usage.</p> <p>EQUI 9 (Industrial Boiler 1) / STRU 1</p> <p>EQUI 14 (Industrial Boiler 2) / STRU 34. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COMG 13 | 3        | <p>The Permittee must limit emissions of HAPs - Total <math>\leq</math> 20.7 tons per year 12-month rolling sum calculated by the 15th day of each month for the previous 12-month period. This limit applies to the total HAP emissions from all associated items in COMG 13 venting to STRU 1, 8, 13, 22, 20, and 34. [Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMG 13 | 4        | <p>The Permittee must limit emissions of Acetaldehyde <math>\leq</math> 8.9 tons per year 12-month rolling sum calculated by the 15th day of each month for the previous 12-month period. This limit applies to the total emissions from all associated items in COMG 13 venting to STRU 8, 13, 22, 20 of Acetaldehyde. [Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMG 13 | 5        | <p>The Permittee shall use the following values for B# in lb/hr units in Equation 1 below:</p> <p>COMG 21 (RTO 1) (May 2024 Test)</p> <p>Acetaldehyde: 0.56</p> <p>Acrolein: 0.03</p> <p>Formaldehyde: 0.05</p> <p>Methanol: 0.08</p> <p>COMG 14 (Fermentation Scrubbers) (May 2024 Test)</p> <p>Acetaldehyde: 0.03</p> <p>Acrolein: 0.01</p> <p>Formaldehyde: 0.002</p> <p>Methanol: 0.003</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|         |          | <p>COMG 15 (Distillation Scrubber) (December 2023 Test)</p> <p>Acetaldehyde: 0.0010</p> <p>Acrolein: 0.0004</p> <p>Formaldehyde: 0.00017</p> <p>Methanol: 0.00005</p> <p>EQUI 23 (Fluid Bed) (May 2024 Test)</p> <p>Acetaldehyde: 0.06</p> <p>Acrolein: 0.06</p> <p>Formaldehyde: 0.005</p> <p>Methanol: 0.02</p> <p>The Permittee shall establish and reconfirm emission factors for these pollutants based on site-specific performance test data and use the factors to calculate actual emissions of these individual HAPs.</p> <p>Emission factors in lb/hr shall be reset upon subsequent performance test results for speciated HAPs (acetaldehyde, acrolein, formaldehyde and methanol) using EPA Method 18, Method 320 or other MPCA-approved test method at COMG 14, COMG 15, COMG 21, and EQUI 23. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|         |          | <p>Monthly Recordkeeping - HAP Emissions: By the 15th of the month, the Permittee shall calculate and record the following as prescribed in Steps 1-7 below:</p> <p>Step 1) Monthly acetaldehyde, acrolein, formaldehyde, and methanol emissions from COMGs 14, 15, 21 and EQUI 23 during the previous calendar month using Equation 1.</p> <p>Equation 1: <math>H_p = ((A_{1c} \times B_1) + (A_{1u} \times B_1 / (1 - CE)) + (A_{2c} \times B_2) + (A_{2u} \times B_2 / (1 - CE)) \dots \text{etc.}) / 2000</math></p> <p>Where:</p> <p><math>H_p</math> = Individual acetaldehyde, acrolein, formaldehyde, and methanol process emissions; tons/month<br/> <math>A_{\#c}</math> = Controlled HAP source (STRU or EQUI) operating hours (recorded under subject items COMGs 14, 15, 21 and EQUI 23) during the previous month when all applicable control equipment operating parameters were at or above the required minimum;<br/> <math>B_{\#}</math> = HAP controlled emission rate; lb/hr<br/> <math>A_{\#u}</math> = Controlled HAP source operating hours during the previous month when any applicable control equipment operating parameter was below the required minimum (recorded under subject items COMGs 14, 15, 21 and EQUI 23); hrs/month<br/> <math>CE</math> = decimal equivalent of control device percent control efficiency for the specific pollutant as defined below</p> |
| COMG 13 | 6        | <p>The Permittee shall use the following values for TREA in Equation 1:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|         |          | <p>COMG 14/TREA 19/TREA 25:<br/> Acetaldehyde: 50%, Acrolein: 50%, Formaldehyde: 50%, Methanol: 50%</p> <p>COMG 15/TREA 17:<br/> Acetaldehyde: 50% Acrolein: 50%, Formaldehyde: 50%, Methanol: 50%</p> <p>COMG 21/TREA 14:<br/> Acetaldehyde: 95%, Acrolein: 95%, Formaldehyde: 95%, Methanol: 95%.</p> <p>For EQUI 23 (which is uncontrolled for HAPs),<br/> <math>A_{\#c}</math> is monthly operating hours and <math>B_{\#}</math> is the (uncontrolled) lb/hr emission rate determined by stack testing. In no instance shall a value be established for <math>A_{\#u}</math> for EQUI 23 because the unit does not have HAP emission control equipment.</p> <p>The Permittee shall establish and re-confirm emission factors for these pollutants based on site-specific performance test data and use the factors to calculate actual emissions of these individual HAPs. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                       |
|         |          | <p>Step 2) The natural gas combustion formaldehyde and hexane emissions (lb/month), for the previous calendar month using Equation 2.</p> <p>Equation 2: <math>H_c = (NG * EF) / 2000</math></p> <p>Where:</p> <p><math>H_c</math> = Individual formaldehyde and hexane combustion emissions, tons/month<br/> <math>NG</math> = monthly natural gas usage from EQUI 1 and EQUI 14, mmcf/month<br/> <math>EF</math> = AP-42 Table 1.4-3 emission factor (7.5E-02 lb/mmcf for formaldehyde; 1.8E+00 lb/mmcf for hexane). [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 13 | 7        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| COMG 13 | 8        | <p>Step 3) The natural gas combustion total HAP (minus formaldehyde and hexane) emissions for the previous calendar month using Equation 3.</p> <p>Equation 3: <math>Hct = (NG * 1.3E-02)/2000</math></p> <p>Where:</p> <p>Hct = monthly total HAP (minus formaldehyde and hexane) natural gas combustion emissions, tons/month</p> <p>NG = COMG 12 monthly natural gas usage, mmcf/month</p> <p>1.3E-02 = composite total HAP emission factor (minus formaldehyde and hexane based on AP-42 Tables 1.4-3 and 1.4-4). [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| COMG 13 | 9        | <p>Step 4) The total monthly formaldehyde emissions (lb/month) by summing the monthly formaldehyde emissions determined by Equations 1 and 2. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                         |
| COMG 13 | 10       | <p>Step 5) The monthly total HAP emissions for the previous month by summing the acetaldehyde, acrolein, and methanol monthly emissions determined in Step 1 above, the formaldehyde monthly emissions determined in Step 4 above, the hexane monthly emissions determined in Step 2 above, and the total combustion HAP minus formaldehyde and hexane monthly emissions determined in Step 3 above. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                  |
| COMG 13 | 11       | <p>Step 6) The 12-month rolling sum emissions of each single HAP species for the previous 12-month period by individually summing the monthly emissions data for acetaldehyde, acrolein, and methanol for the previous 12 months determined in Step 1, by summing the monthly formaldehyde emissions data determined in Step 4, and by summing the hexane emissions data determined in Step 2. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                        |
| COMG 13 | 12       | <p>Step 7) The 12-month rolling sum total HAP emissions by summing the monthly total HAPs emissions data determined in Step 5 above, for the previous 12 months. [Minn. R. 7007.0800, subsp. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                      |
| COMG 13 | 13       | <p>Daily Recordkeeping of Hours of Operation: The Permittee shall keep daily records of hours of operation that emissions are vented to STRU 8, 13, 20 and 22 and the hours of operation that emissions are controlled by associated control equipment. Any hours of operation where the associated control equipment is down and emissions are venting to STRU 8, 13, 20 and 22 must be calculated as uncontrolled emissions. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                        |
| COMG 13 | 14       | <p>Recordkeeping: Daily Fuel Usage: Once each day, record the total cubic feet of natural gas combusted by EQUI 1 and EQUI 14 during the previous calendar day. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                       |
| COMG 13 | 15       | <p>Recordkeeping: Monthly Fuel Usage: By the 15th of each month, calculate and record the total cubic feet of natural gas combusted by EQUI 1 and EQUI 14 during the previous calendar month. [Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                                                                                  |
| COMG 13 | 16       | <p>Daily Recordkeeping of Hours of Operation: The Permittee shall keep daily records of hours of operation that emissions are vented to STRU 8, 13, 20, and 22 and the hours of operation that emissions are controlled by associated control equipment. Any hours of operation where the associated control equipment is down and emissions are venting to STRU 8, 13, 20 and 22 must be calculated as uncontrolled emissions. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                       |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| COMG 14 | 1        | <p>COMG 14 Operating Scenario 1 - Emissions are vented to STRU 8 from TREA 19 and through the CO2 Plant.</p> <p>The Permittee must vent emissions from all emission units that vent to (or are associated with) STRU 8, including existing, modified, or new VOC-emitting units to a scrubber that meets the requirements of TREA 19 whenever any emission unit that vents to (or is associated with) STRU 8 operates, except as otherwise authorized by this permit, and must operate and maintain a scrubber that meets the requirements of TREA 19 at all times that any emissions vent to it.</p> <p>After control by TREA 19, the Permittee is authorized to vent all or a portion of emissions to STRU 8 or to send a portion of exhaust gases to the Carbon Dioxide Recovery Skid. The Carbon Dioxide Recovery Skid is authorized to vent to either STRU 22 (controlled by TREA 14 - RTO) or STRU 8. The Permittee must use the operating parameters (short-term throughput limits and control equipment parameters) determined during performance testing of COMG 14 Operating Scenario 2 during COMG 14 OS 1 operation. COMG 14 OS 2 does not take credit for emission reductions from the CO2 skid.</p> <p>See TREA 19 for applicable limits, recordkeeping and reporting requirements for scrubber operations with and without operation of the Carbon Dioxide Recovery Skid.</p> <p>See COMG 21 for applicable limits, testing, recordkeeping and reporting requirements. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| COMG 14 | 2        | <p>COMG 14 Operating Scenario 2 - Emissions are vented to STRU 8 directly from TREA 19. When operating under COMG 14 OS 2, the Permittee must vent emissions from all emission units that vent to (or are associated with) STRU 8, including existing, modified, or new VOC-emitting units to a scrubber that meets the requirements of TREA 19 whenever any emission unit that vents to (or is associated with) STRU 8 operates, except as otherwise authorized by this permit, and must operate and maintain a scrubber that meets the requirements of TREA 19 at all times that any emissions vent to it. The DDGS dryers must be shut down during Operating Scenario 2. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMG 14 | 3        | <p>COMG 14 Operating Scenario 3 - Emissions are vented to STRU 8 from TREA 25 and through the CO2 Plant.</p> <p>The Permittee must vent emissions from all emission units that vent to (or are associated with) STRU 8, including existing, modified, or new VOC-emitting units to a scrubber that meets the requirements of TREA 25 whenever any emission unit that vents to (or is associated with) STRU 8 operates, except as otherwise authorized by this permit, and must operate and maintain a scrubber that meets the requirements of TREA 25 at all times that any emissions vent to it.</p> <p>After control by TREA 25, the Permittee is authorized to vent all or a portion of emissions to STRU 8 or to send a portion of exhaust gases to the Carbon Dioxide Recovery Skid. The Carbon Dioxide Recovery Skid is authorized to vent to either STRU 22 (controlled by TREA 14 - RTO) or STRU 8. The Permittee must use the operating parameters (short-term throughput limits and control equipment parameters) determined during performance testing of COMG 14 Operating Scenario 2 during COMG 14 OS 3 operation. COMG 14 OS 4 does not take credit for emission reductions from the CO2 skid.</p> <p>See TREA 25 for applicable limits, recordkeeping and reporting requirements for scrubber operations with and without operation of the Carbon Dioxide Recovery Skid.</p> <p>See COMG 21 for applicable limits, testing, recordkeeping and reporting requirements. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| COMG 14 | 4        | <p>COMG 14 Operating Scenario 4 - Emissions are vented to STRU 8 directly from TREA 25.</p> <p>When operating under COMG 14 OS 4, the Permittee must vent emissions from all emission units that vent to (or are associated with) STRU 8, including existing, modified, or new VOC-emitting units to a scrubber that meets the requirements of TREA 25 whenever any emission unit that vents to (or is associated with) STRU 8 operates, except as otherwise authorized by this permit, and must operate and maintain a scrubber that meets the requirements of TREA 25 at all times that any emissions vent to it. The DDGS dryers must be shut down during Operating Scenario 4. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                              |
| COMG 14 | 5        | <p>The Permittee must limit emissions of Volatile Organic Compounds <math>\leq 12.0</math> pounds per hour 3-hour average as total mass of VOC, when venting directly to atmosphere. Fermentation scrubber-controlled equipment for the purposes of COMG 14 limits are defined to include all fermentation equipment with emissions controlled by TREA 19 or TREA 25. If the Permittee replaces any existing VOC-emitting equipment, adds new VOC-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 14, TREA 19, TREA 25 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 14 | 6        | <p>During all Operating Scenarios combined: Operating Hours <math>\leq 1,000</math> hours per year when venting COMG 14 members directly to atmosphere. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMG 14 | 3680     | <p>Opacity <math>\leq 20</math> percent opacity. This limit applies individually to each member of COMG 14. [Minn. R. 7011.0715, subp. 1(B)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMG 14 | 3690     | <p>Particulate Matter <math>\leq 0.30</math> grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each member of COMG 14. [Minn. R. 7011.0715, subp. 1(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 14 | 3691     | <p>The Permittee must limit COMG 14 OS 1, COMG 14 OS 2, TREA 19 OS 1, and TREA 19 OS 2 Short-Term Process Throughput <math>\leq 715</math> gallons per minute 3-hour average beer feed rate to the distillation process unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 form.</p> <p>The highest process throughput rate as of permit issuance of permit 04500049-102 for beer feed is 715 gallons per minute. [Minn. R. 7007.0800, subp. 11, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                          |
| COMG 14 | 3692     | <p>The Permittee must limit COMG 14 OS 3, COMG 14 OS 4, TREA 25 OS 3, and TREA 25 OS 4 Short-Term Process Throughput <math>\leq 715</math> gallons per minute 3-hour average beer feed rate to the distillation process unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 form.</p> <p>The highest process throughput rate as of permit issuance of permit 04500049-102 for beer feed is 715 gallons per minute. [Minn. R. 7007.0800, subp. 11, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                          |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| COMG 14 | 3693     | <p>The Permittee must limit COMG 14 OS 4 and TREA 25 OS 2 Short-Term Process Throughput <math>\leq</math> 715 gallons per minute 3-hour average beer feed rate to the distillation process unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 form.</p> <p>The highest process throughput rate as of permit issuance of permit 04500049-102 for beer feed is 715 gallons per minute. [Minn. R. 7007.0800, subp. 11, Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 14 | 3694     | <p>Short-Term Process Throughput: Daily Recordkeeping. On each day of operation the Permittee must calculate, record, and maintain a record of the beer feed throughput on a three-hour block average. This must be recorded in usage logs. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMG 14 | 3695     | <p>Daily Recordkeeping: Each occurrence that STRU 8 is vented directly to the atmosphere, record the date, start time, duration, and operating scenario during the bypass of the RTO or CO2 recovery plant. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 14 | 3696     | <p>Recordkeeping of Alternative Operating Scenarios: Each day of operation the Permittee must record and maintain the hours of operation in OS 1, 2, 3, or 4.</p> <p>Alternative Operating Scenario Recordkeeping:<br/>The Permittee shall keep a log showing which operating scenario it is operating under at all times. The log shall be updated whenever making a change from one operating scenario to the other. The record shall at a minimum include the day and time the switch was made and the designation of the operating scenario. The log may be hand-written or electronic. [Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| COMG 14 | 3697     | <p>Protocol for Resetting Short-Term Process Throughput Limits:<br/>The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| COMG 14 | 3698     | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 19 and 25.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 14 | 3699     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 14 | 3700     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| COMG 14 | 20080    | <p>Volatile Organic Compounds: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions of VOC as mass (lb/hr) from STRU 8.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 25A, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 14.</p> <p>Special Considerations-Worst-case venting Conditions Operating Scenario 2 (OS 2)</p> <ol style="list-style-type: none"> <li>1. All fermentation emissions must be controlled by TREA 19. Emissions may not be controlled by TREA 25.</li> <li>2. TREA 19 must be vented to STRU 8. Emissions may not be vented to the CO2 skid or TREA 22 (RTO) for control.</li> <li>3. Short-term throughput limits and control equipment parameters determined during COMG 14 OS 2 testing will be used to set COMG 14 OS 1 short-term throughput limits and control equipment parameters.</li> </ol> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 14 | 21290    | <p>HAPs - Single: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to verify the emission factors for speciated HAPs (lb/hr) from STRU 8.</p> <p>The HAP emission factor verification must be concurrent with the VOC as mass testing conducted for this COMG. The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18, 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 14.</p> <p>Special Considerations-Worst-case venting conditions Operating Scenario 2 (OS 2)</p> <ol style="list-style-type: none"> <li>1. All fermentation emissions must be controlled by TREA 19. Emissions may not be controlled by TREA 25.</li> <li>2. TREA 19 must be vented to STRU 8. Emissions may not be vented to the CO2 skid or TREA 22 (RTO) for control.</li> </ol> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                 |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| COMG 14 | 21291    | <p>Volatile Organic Compounds: The Permittee shall conduct a performance test due 5/9/2029 and every 60 months thereafter to measure emissions of VOC as mass (lb/hr) from STRU 8. The first test is due by the date specified and all subsequent tests shall be completed every 60 months thereafter by the set due date (month and day) and as described below.</p> <p>The performance test must be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 25A in addition to Method 18 or Method 320, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 14.</p> <p>Special Considerations – Worst-case venting Conditions Operating Scenario 4 (OS 4)</p> <ol style="list-style-type: none"> <li>1. All fermentation emissions must be controlled by TREA 19. Emissions may not be controlled by TREA 25.</li> <li>2. TREA 19 must be vented to STRU 8. Emissions may not be vented to the CO2 skid or TREA 22 (RTO) for control.</li> <li>3. Operating conditions and control equipment parameters determined during COMG 14, OS 2 testing will be used for COMG 14, OS 1 short-term throughput limits and control equipment parameters.</li> </ol> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 14 | 21292    | <p>HAPs - Single: The Permittee must conduct performance test: Due 5/9/2029 to verify the emission factors for speciated HAPs from STRU 8. The first test is due by the date specified and all subsequent tests are due by the end of each 60-month period following that date.</p> <p>The HAP emission factor verification must be concurrent with the VOC as mass testing conducted for this stack. The performance test must be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18 or Method 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 14.</p> <p>Special Considerations – Worst-case venting Conditions Operating Scenario 4 (OS 4)</p> <ol style="list-style-type: none"> <li>1. All fermentation emissions must be controlled by TREA 19. Emissions may not be controlled by TREA 25.</li> <li>2. TREA 19 must be vented to STRU 8. Emissions may not be vented to the CO2 skid or TREA 22 (RTO) for control.</li> </ol> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                       |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| COMG 14 | 21293    | Volatile Organic Compounds: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 8 due 60 calendar days after the Permittee replaces any existing VOC-emitting fermentation equipment, adds new VOC-emitting fermentation equipment, or modifies the existing equipment in COMG 14. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 25A, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 14. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                        |
| COMG 14 | 21294    | HAPs - Single: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 8 due 60 calendar days after the Permittee replaces any existing HAPs-emitting fermentation equipment, adds new HAPs-emitting fermentation equipment, or modifies the existing equipment in COMG 14. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 18, 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 14. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 63.2] |
| COMG 15 | 1        | The Permittee must limit emissions of Volatile Organic Compounds <= 1.5 pounds per hour 3-hour block average as total mass of VOCs. Distillation scrubber-controlled equipment for the purposes of COMG 15 limits are defined to include all dehydrators, distillation equipment, fermentation equipment, liquefaction equipment, separation equipment, and stripping equipment with emissions controlled by TREA 17. If the Permittee replaces any existing VOC-emitting equipment, adds new VOC-emitting equipment or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 15, TREA 17, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                       |
| COMG 15 | 2        | The Permittee must vent emissions from all emission units that vent to STRU 13, including existing, modified, or new emission units that vent to STRU 13 to a scrubber meeting the requirements of TREA 17 whenever any emission unit that vents to STRU 13 operates, and must operate and maintain a scrubber that meets the requirements of TREA 17 at all times that any emissions vent to it. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMG 15 | 3680     | Opacity <= 20 percent opacity. This limit applies individually to each member of COMG 15. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMG 15 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each member of COMG 15. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMG 15 | 3692     | The Permittee must limit Short-Term Process Throughput <= 715 gallons per minute 3-hour average beer feed rate to the distillation process as determined during the March 17 - April 9, 2020 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.<br><br>The highest process throughput rate as of permit issuance of permit 04500049-102 for beer feed rate is 715 gallons per minute based on the process throughput rate achieved in the December 19, 2023 performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                               |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| COMG 15 | 3693     | <p>The Permittee must limit Short-Term Process Throughput <math>\leq</math> 135.4 gallons per minute 3-hour average ethanol production rate based on feed rate to ethanol storage as determined during the March 17 - April 9, 2020 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.</p> <p>The highest process throughput rate as of permit issuance of permit 04500049-102 for ethanol production is 715 gallons per minute based on the process throughput rate achieved in the December 19, 2023 performance test. [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COMG 15 | 3694     | <p>Short-Term Process Throughput: Daily Recordkeeping. On each day of operation the Permittee must calculate, record, and maintain a record of the beer feed and ethanol production throughput on a three-hour block average. This must be recorded in usage logs. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| COMG 15 | 3696     | <p>Protocol for Resetting the Short-Term Process Throughput Limit:</p> <p>The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| COMG 15 | 3697     | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 17.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 15 | 3698     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 15 | 3699     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 15 | 20080    | <p>Volatile Organic Compounds: The Permittee shall conduct a performance test due before 12/19/2028 and every 60 months thereafter to measure emissions of VOC as mass (lb/hr) from STRU 13.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 25A, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 15.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| COMG 15 | 21290    | <p>HAPs - Single: The Permittee shall conduct a performance test due before 12/19/2028 and every 60 months thereafter to verify the emission factors for speciated HAPs (lb/hr) from STRU 13.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18, 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 15.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| COMG 15 | 21291    | <p>Volatile Organic Compounds: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 13 due 60 calendar days after the Permittee replaces any existing VOC-emitting dehydrators, distillation equipment, fermentation equipment, liquefaction equipment, separation equipment and stripping equipment, adds new VOC-emitting dehydrators, distillation equipment, fermentation equipment, liquefaction equipment, separation equipment and stripping equipment, or modifies the existing equipment in COMG 15. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 25A, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 15. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 15 | 21292    | <p>HAPs - Single: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 13 due 60 calendar days after the Permittee replaces any existing HAPs-emitting dehydrators, distillation equipment, fermentation equipment, liquefaction equipment, separation equipment and stripping equipment, adds new HAPs-emitting dehydrators, distillation equipment, fermentation equipment, liquefaction equipment, separation equipment and stripping equipment, or modifies the existing equipment in COMG 15. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 18, 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 15. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                         |
| COMG 16 | 8210     | The Permittee shall limit Particulate Matter <= 0.01 grains per dry standard cubic foot. [40 CFR 60.302(b)(1) & Minn. R. 7011.1005, subp. 2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMG 16 | 8220     | The Permittee shall limit Opacity <= 0 percent opacity. [40 CFR 60.302(b)(2) & Minn. R. 7011.1005, subp. 2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 16 | 19970    | <p>Particulate Matter: The Permittee shall conduct a performance test due 180 calendar days after Permit Issuance Date to measure emissions. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. [40 CFR 60.302(b)(1), Minn. R. 7011.1005, subp. 2, Minn. R. 7017.2020, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| COMG 16 | 19985    | Opacity: The Permittee shall conduct a performance test due 180 calendar days after Permit Issuance Date to measure opacity. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 9, or other method approved by MPCA in the performance test plan approval. [40 CFR 60.302(b)(2), Minn. R. 7011.1005, subp. 2, Minn. R. 7017.2020, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMG 16 | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.1(a)-(c);<br/> 40 CFR 60.2;<br/> 40 CFR 60.3;<br/> 40 CFR 60.4;<br/> 40 CFR 60.8(a)-(i); and<br/> 40 CFR 60.11.</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. DD, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.1005, subp. 2, Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p>                                                                                                                                                                                                              |
| COMG 16 | 35730    | The Permittee shall submit a notification of anticipated date for conducting opacity observations: Due 30 calendar days before Opacity Observation Date. [40 CFR 60.7(a)(6), Minn. R. 7019.0100, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 17 | 1        | The Permittee must limit emissions of Particulate Matter $\leq 0.070$ pounds per hour 3-hour average from STRU 17. DDGS Silo equipment for the purposes of COMG 17 limits are defined to include all conveyors, separation equipment, and silos/bins. If the Permittee replaces any existing PM-emitting DDGS Silo equipment, adds new PM-emitting DDGS Silo equipment, or modifies the existing DDGS Silo equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 17, TREA 20, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                        |
| COMG 17 | 2        | The Permittee must limit emissions of PM $< 10$ micron $\leq 0.070$ pounds per hour 3-hour average from STRU 17. DDGS Silo equipment for the purposes of COMG 17 limits are defined to include all conveyors, separation equipment, and silos/bins. If the Permittee replaces any existing PM10-emitting DDGS Silo equipment, adds new PM10-emitting DDGS Silo equipment, or modifies the existing DDGS Silo equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 17, TREA 20, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 17 | 3        | The Permittee must limit emissions of PM $< 2.5$ micron $\leq 0.070$ pounds per hour 3-hour average from STRU 17. DDGS Silo equipment for the purposes of COMG 17 limits are defined to include all conveyors, separation equipment, and silos/bins. If the Permittee replaces any existing PM2.5-emitting DDGS Silo equipment, adds new PM2.5-emitting DDGS Silo equipment, or modifies the existing DDGS Silo equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 17, TREA 20, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                   |
| COMG 17 | 4        | The Permittee must limit emissions of Sulfur Dioxide $\leq 0.42$ pounds per hour 3-hour average. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMG 17 | 3420     | Opacity $\leq 10$ percent opacity discharged from control equipment. [Minn. R. 7011.1005, subp. 3(D)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COMG 17 | 3430     | Particulate Matter $\geq 80$ percent collection efficiency for the control equipment. [Minn. R. 7011.1005, subp.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| COMG 17 | 3431     | The Permittee must vent emissions from all DDGS Silo equipment, including existing, modified or new Silo equipment to control equipment meeting the requirements of TREA 20. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 17 | 3433     | The Permittee must limit Short-Term Process Throughput $\leq$ 715 gallons per minute 3-hour block average beer feed rate to the distillation process unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.<br>The highest process throughput rate as of permit issuance of permit 04500049-102 for beer feed is 715 gallons per minute. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 17 | 3434     | Short-Term Process Throughput: Daily Recordkeeping. On each day of operation the Permittee must calculate, record, and maintain a record of the beer feed throughput on a three-hour block average. This must be recorded in usage logs. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMG 17 | 3435     | <p>Protocol for Resetting the Short-Term Process Throughput Limit:</p> <p>The Permittee shall conduct performance testing to measure the PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|         |          | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 20.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 17 | 3436     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMG 17 | 3437     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 17 | 3438     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 17 | 3439     | <p>The Permittee shall submit a notification: due 15 days after the date on which the processing aid for mitigation of Deoxynivalenol (DON) mycotoxin was used. The notification shall include the date on which the processing aid was first used at the facility for mitigation of DON mycotoxin. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| COMG 17 | 19880    | <p>PM &lt; 10 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Permit Issuance Date and at a minimum every 60 months thereafter to measure emissions from STRU 17.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 17.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I</p> |
|         |          | <p>Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMG 17 | 19890    | <p>PM &lt; 2.5 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Permit Issuance Date and at a minimum every 60 months thereafter to measure emissions from STRU 17.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 17.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                       |
|         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| COMG 17 | 19900    | <p>Particulate Matter: The Permittee shall conduct an initial performance test due 180 calendar days after Permit Issuance Date and at a minimum every 60 months thereafter to measure emissions from STRU 17.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 17.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>      |
|         |          | <p>Sulfur Dioxide: The Permittee shall conduct an initial performance test due 180 calendar days after start of Process Aid use and at a minimum every 60 months thereafter to measure emissions from STRU 17.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 6C, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 17.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 17 | 19930    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| COMG 17 | 19931    | PM < 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 17 due 60 calendar days after the Permittee replaces any existing PM10-emitting DDGS Silo equipment, adds new PM10-emitting DDGS Silo equipment, or modifies the existing equipment in COMG 17. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 17. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 17 | 19932    | PM < 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 17 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting DDGS Silo equipment, adds new PM2.5-emitting DDGS Silo equipment, or modifies the existing equipment in COMG 17. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 17. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                   |
| COMG 17 | 19933    | Particulate Matter: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 17 due 60 calendar days after the Permittee replaces any existing PM-emitting DDGS Silo equipment, adds new PM-emitting DDGS Silo equipment, or modifies the existing equipment in COMG 17. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 17. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                         |
| COMG 17 | 19934    | Sulfur Dioxide: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 17 due 60 calendar days after the Permittee replaces any existing SO2-emitting DDGS Silo equipment, adds new SO2-emitting DDGS Silo equipment, or modifies the existing equipment in COMG 17. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 6C, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 17. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                          |
| COMG 18 | 1        | The Permittee must limit emissions of Particulate Matter <= 0.30 pounds per hour 3-hour block average from STRU 33. Grain handling equipment for the purposes of COMG 18 limits are defined to include all conveyors, elevators, material handling equipment, and silos/bins used to handle the grain received. If the Permittee replaces any existing PM-emitting grain handling equipment, adds new PM-emitting grain handling equipment, or modifies the existing grain handling equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 18, TREA 15, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                   |



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| COMG 18 | 2        | The Permittee must limit emissions of PM < 10 micron <= 0.30 pounds per hour 3-hour block average from STRU 33. Grain handling equipment for the purposes of COMG 18 limits are defined to include all conveyors, elevators, material handling equipment, and silos/bins used to handle the grain received. If the Permittee replaces any existing PM10-emitting grain handling equipment, adds new PM10-emitting grain handling equipment, or modifies the existing grain handling equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 18, TREA 15, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 18 | 4        | The Permittee must limit emissions of PM < 2.5 micron <= 0.30 pounds per hour 3-hour average from STRU 33. Grain handling equipment for the purposes of COMG 18 limits are defined to include all conveyors, elevators, material handling equipment, and silos/bins used to handle the grain received. If the Permittee replaces any existing PM2.5-emitting grain handling equipment, adds new PM2.5-emitting grain handling equipment, or modifies the existing grain handling equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 18, TREA 15, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                         |
| COMG 18 | 3420     | Opacity <= 10 percent opacity discharged from control equipment. [Minn. R. 7011.1005, subp. 3(D)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 18 | 3421     | The Permittee must vent emissions from all grain handling equipment, including existing, modified, or new grain handling equipment to control equipment meeting the requirements of TREA 15. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 18 | 3422     | The Permittee must limit the hours of operation of grain receiving operations each day to the hours of 5 AM to 7 PM. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMG 18 | 3423     | Hours of Operation: Daily Recordkeeping: On each day of operation, the Permittee must record the time that the first and last grain receiving truck is received at the facility. This shall be based on written records or receipts. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMG 18 | 3424     | The Permittee must limit Short-Term Process Throughput <= 420 tons per hour 3-hour block average of grain received based on grain receipts as determined during the October 15-18, 2024 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.<br><br>The highest process throughput rate as of permit issuance of permit 04500049-102 for grain received is 420 tons/hour based on the process throughput rate achieved in the October 15-18, 2024 performance test. The maximum capacity for grain received throughput is 427 tons per hour 3-hour block average. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                           |
| COMG 18 | 3425     | Short-Term Process Throughput: Daily Recordkeeping. On each day of operation the Permittee must calculate, record, and maintain a record of the grain received throughput on a three-hour block average. This must be recorded in usage logs. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| COMG 18 | 3426     | <p><b>Protocol for Resetting the Short-Term Process Throughput Limit:</b></p> <p>The Permittee shall conduct performance testing to measure the PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 18 | 3427     | <p><b>Procedure to Increase the Short-Term Process Throughput Limit:</b></p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 15.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 18 | 3428     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| COMG 18 | 3429     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 18 | 20020    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test due before 10/29/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 33.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 18.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 18 | 20030    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test due before 10/29/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 33.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 18.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                         |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| COMG 18 | 20040    | <p>Particulate Matter: The Permittee shall conduct a performance test due before 10/29/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 33.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 18.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 18 | 20041    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 33 due 60 calendar days after the Permittee replaces any existing PM10-emitting conveyors, elevators, silos/bins and material handling equipment, adds new PM10-emitting conveyors, elevators, silos/bins and material handling equipment, or modifies the existing equipment in COMG 18. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 18. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                     |
| COMG 18 | 20042    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 33 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting conveyors, elevators, silos/bins and material handling equipment, adds new PM2.5-emitting conveyors, elevators, silos/bins and material handling equipment, or modifies the existing equipment in COMG 18. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 18. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                           |
| COMG 18 | 20043    | <p>Particulate Matter: The Permittee shall conduct a performance test to measure emissions from STRU 33 due 60 calendar days after the Permittee replaces any existing PM-emitting conveyors, elevators, silos/bins and material handling equipment, adds new PM-emitting conveyors, elevators, silos/bins and material handling equipment, or modifies the existing equipment in COMG 18. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 18. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                             |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| COMG 19 | 1        | The Permittee must limit emissions of Particulate Matter $\leq 0.410$ pounds per hour 3-hour average from STRU 23. Grain receiving equipment for the purposes of COMG 19 limits are defined to include all conveyors, elevators, loading-unloading equipment, rolling equipment, and silos/bins used to handle the grain received. If the Permittee replaces any existing PM-emitting grain handling equipment, adds new PM-emitting grain handling equipment, or modifies the existing grain handling equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 19, TREA 11, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                        |
| COMG 19 | 2        | The Permittee must limit emissions of PM $< 10$ micron $\leq 0.410$ pounds per hour 3-hour average from STRU 23. Grain receiving equipment for the purposes of COMG 19 limits are defined to include all conveyors, elevators, loading-unloading equipment, rolling equipment, and silos/bins used to handle the grain received. If the Permittee replaces any existing PM10-emitting grain handling equipment, adds new PM10-emitting grain handling equipment, or modifies the existing grain handling equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 19, TREA 11, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 19 | 3        | The Permittee must limit emissions of PM $< 2.5$ micron $\leq 0.410$ pounds per hour 3-hour average from STRU 23. Grain receiving equipment for the purposes of COMG 19 limits are defined to include all conveyors, elevators, loading-unloading equipment, rolling equipment, and silos/bins used to handle the grain received. If the Permittee replaces any existing PM2.5-emitting grain handling equipment, adds new PM2.5-emitting grain handling equipment, or modifies the existing grain handling equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 19, TREA 11, and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                   |
| COMG 19 | 4        | The Permittee must vent emissions from all grain receiving equipment, including existing, modified, or new grain receiving equipment to control equipment meeting the requirements of TREA 11. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMG 19 | 5        | The Permittee must limit the hours of operation of grain receiving operations each day to the hours of 5 AM to 7 PM. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMG 19 | 6        | Hours of Operation: Daily Recordkeeping: On each day of operation, the Permittee must record the time that the first and last grain receiving truck is received at the facility. This shall be based on written records or receipts. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMG 19 | 7        | The Permittee must limit Short-Term Process Throughput $\leq 560$ tons per hour 3-hour block average of grain received based on grain receipts as determined during the October 15-18, 2024 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 81 and must be reported on the applicable DRF-2 Form.<br>The highest process throughput rate as of permit issuance of permit 04500049-102 is 560 tons/hour based on the process throughput rate achieved in the October 15-18, 2024 performance test. The maximum capacity for grain received throughput is 582 tons per hour 3 hour block average. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                   |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| COMG 19 | 8        | <p>Short-Term Process Throughput: Daily Recordkeeping. On each day of operation the Permittee must calculate, record, and maintain a record of the grain received throughput on a three-hour block average. This must be recorded in usage logs. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 19 | 9        | <p><b>Protocol for Resetting the Short-Term Process Throughput Limit:</b></p> <p>The Permittee shall conduct performance testing to measure the PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 19 | 10       | <p><b>Procedure to Increase the Short-Term Process Throughput Limit:</b></p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 11.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| COMG 19 | 11       | The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| COMG 19 | 12       | Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| COMG 19 | 20020    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test due before 10/29/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 23.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 19.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 19 | 20030    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test due before 10/29/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 23.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 19.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                         |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| COMG 19 | 20040    | <p>Particulate Matter: The Permittee shall conduct a performance test due before 10/29/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 23.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 19.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 19 | 20041    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 23 due 60 calendar days after the Permittee replaces any existing PM10-emitting conveyors, elevators, silos/bins, loading-unloading equipment and rolling equipment, adds new PM10-emitting conveyors, elevators, silos/bins, loading-unloading equipment and rolling equipment, or modifies the existing equipment in COMG 19. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 19. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                               |
| COMG 19 | 20042    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 23 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting conveyors, elevators, silos/bins, loading-unloading equipment and rolling equipment, adds new PM2.5-emitting conveyors, elevators, silos/bins, loading-unloading equipment and rolling equipment, or modifies the existing equipment in COMG 19. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 19. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                     |
| COMG 19 | 20043    | <p>Particulate Matter: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 23 due 60 calendar days after the Permittee replaces any existing PM-emitting conveyors, elevators, silos/bins loading-unloading equipment and rolling equipment, adds new PM-emitting conveyors, elevators, silos/bins, loading-unloading equipment and rolling equipment, or modifies the existing equipment in COMG 19. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 19. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                               |
| COMG 20 | 1        | <p>Operating Hours &lt;= 500 hours per year 12-month rolling sum when venting COMG 20 members via STRU 41 directly to atmosphere. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| COMG 20 | 2        | Daily Recordkeeping: Each occurrence that COMG 20 members are vented via STRU 41 directly to the atmosphere, record the date, start time, duration, and operating scenario during the bypass of the RTO. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMG 20 | 3        | Recordkeeping: by the 15th day of each month, record the hours COMG 20 members are vented via STRU 41 directly to the atmosphere during the previous month and during the previous 12-month period (12-month rolling sum). [Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMG 21 | 1        | COMG 21 requirements will be terminated upon startup of TREA 27 replacing TREA 14. [Minn. R. 7007.0800, subp. 2(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMG 21 | 2        | The Permittee must limit emissions of Particulate Matter $\leq 12.0$ pounds per hour 3-hour average from STRU 22. Thermal oxidizer-controlled equipment for the purposes of COMG 21 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any PM-emitting equipment, adds new PM-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 21, TREA 14 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                    |
| COMG 21 | 3        | The Permittee must limit emissions of PM $< 10$ micron $\leq 12.0$ pounds per hour 3-hour average from STRU 22. Thermal oxidizer-controlled equipment for the purposes of COMG 21 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any PM10-emitting equipment, adds new PM10-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 21, TREA 14 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                             |
| COMG 21 | 4        | The Permittee must limit emissions of PM $< 2.5$ micron $\leq 12.0$ pounds per hour 3-hour average from STRU 22. Thermal oxidizer-controlled equipment for the purposes of COMG 21 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any PM2.5-emitting equipment, adds new PM2.5-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 21, TREA 14 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                               |
| COMG 21 | 5        | The Permittee must limit emissions of Volatile Organic Compounds $\leq 12.0$ pounds per hour 12-month rolling average as mass from STRU 22. Thermal oxidizer-controlled equipment for the purposes of COMG 21 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any VOC-emitting equipment, adds new VOC-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 21, TREA 14 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| COMG 21 | 6        | The Permittee must limit emissions of Carbon Monoxide $\leq$ 100 parts per million or 90 percent reduction from STRU 22. Thermal oxidizer-controlled equipment for the purposes of COMG 21 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any CO-emitting equipment, adds new CO-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 21, TREA 14 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 21 | 7        | The Permittee must limit emissions of Carbon Monoxide $\leq$ 13.1 pounds per hour 3-hour average from STRU 22. Thermal oxidizer-controlled equipment for the purposes of COMG 21 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any CO-emitting equipment, adds new CO-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 21, TREA 14 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                  |
| COMG 21 | 8        | The Permittee must limit emissions of Sulfur Dioxide $\leq$ 50.0 pounds per hour 3-hour average from STRU 22. Thermal oxidizer-controlled equipment for the purposes of COMG 21 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any SO <sub>2</sub> -emitting equipment, adds new SO <sub>2</sub> -emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 21, TREA 14 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                  |
| COMG 21 | 3450     | Opacity $\leq$ 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies individually to EQUI 20 and EQUI 61. [Minn. R. 7011.0610, subp. 1(A)(2)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| COMG 21 | 3455     | Sulfur Dioxide $\leq$ 2.0 pounds per million Btu heat input when burning liquid fossil fuels. The potential to emit from the unit is 0.0006 lb/MMBtu due to equipment design and allowable fuels. This limit applies individually to EQUI 20 and EQUI 61. [Minn. R. 7011.0610, subp. 2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMG 21 | 3460     | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to EQUI 20 and EQUI 61. [Minn. R. 7011.0610, subp. 1(A)(1)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMG 21 | 3680     | Opacity $\leq$ 20 percent opacity. This limit applies individually to each member of COMG 21, except EQUI 20 and EQUI 61. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 21 | 3690     | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each member of COMG 21, except EQUI 20 and EQUI 61. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMG 21 | 3691     | Recordkeeping: Once each operating day, the Permittee must record the syrup feed rate. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| COMG 21 | 3692     | COMG 21 OS #1: The Permittee must vent emissions from all emission units that vent to STRU 22, including existing, modified, or new emission units that vent to STRU 22 to a RTO that meets the requirements of TREA 14 whenever any emission unit that vents to STRU 22 operates except as otherwise authorized by this permit, and must operate and maintain a RTO that meets the requirements of TREA 14 at all times that any emissions vent to it. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                     |
| COMG 21 | 3693     | COMG 21 OS #2 RTO Bypass: The Permittee is authorized to bypass the RTO and vent emissions to STRU 8 for up to 1,000 hours per year. See COMG 14 for applicable limits and requirements. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| COMG 21 | 3694     | Emissions from centrifuges are authorized by this permit to vent to either STRU 22 (indirect) or STRU 41 (direct) under limited conditions. See COMG 20 for applicable limits, recordkeeping and reporting requirements. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 21 | 3695     | Emissions from any whole stillage tank are authorized by this permit to vent to STRU 22 (indirect) and STRU 45 (direct). See EQUI 195 for applicable limits, recordkeeping and reporting requirements for direct emissions. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COMG 21 | 3696     | Emissions from any thin stillage tank are authorized by this permit to vent to STRU 22 (indirect) and STRU 46 (direct). See EQUI 196 for applicable limits, recordkeeping and reporting requirements for direct emissions. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| COMG 21 | 3697     | Emissions from any syrup tank are authorized by this permit to vent to STRU 22 (indirect) and STRUs 47 and 48 (direct). See EQUIs 197 and 211 for applicable limits, recordkeeping and reporting requirements for direct emissions. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 21 | 3699     | The Permittee must limit Short-Term Process Throughput <= 715 gallons per minute 3-hour block average beer feed rate to the distillation process as determined during the March 17 and April 9, 2020 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.<br><br>The highest process throughput rate as of permit issuance of permit 04500049-102 for beer feed rate is 715 gallons per minute based on the process throughput rate achieved in the March 17 and April 9, 2020 performance test. The maximum capacity for beer feed throughput is 715 gallons per minute 3 hour block average. [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                 |
| COMG 21 | 3700     | The Permittee must limit Short-Term Process Throughput <= 142.3 gallons per minute 3-hour average ethanol production rate based on feed rate to ethanol storage as determined during the March 17 and April 9, 2020 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.<br><br>The highest process throughput rate as of permit issuance of permit 04500049-102 for ethanol production is 142.3 gallons per minute based on the process throughput rate achieved in the March 17 and April 9, 2020 performance test. The maximum capacity for ethanol production throughput is 142.3 gallons per minute 3 hour block average. [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2] |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| COMG 21 | 3701     | <p>Short-Term Process Throughput: Daily Recordkeeping. On each day of operation the Permittee must calculate, record, and maintain a record of the beer feed and ethanol production throughput on a 3 hour block average. This must be recorded in usage logs. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMG 21 | 3703     | <p>Protocol for Resetting the Short-Term Process Throughput Limit:<br/>The Permittee shall conduct performance testing to measure the PM, PM10, PM2.5, CO, SO2 and VOC emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| COMG 21 | 3704     | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 14.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

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| COMG 21 | 3705     | The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 21 | 3706     | Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 21 | 19850    | <p>Nitrogen Oxides: The Permittee shall conduct a performance test due before 5/9/2034 and every 120 months thereafter to verify the emission factor of 0.066 lb NOx/MMBtu from STRU 22.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 120 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 7E, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R.</p>                                                                                                                                                                                                   |
| COMG 21 | 20020    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 22.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| COMG 21 | 20030    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 22.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                           |
| COMG 21 | 20040    | <p>Particulate Matter: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 22.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                              |
| COMG 21 | 20050    | <p>Carbon Monoxide: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 22.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 10, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| COMG 21 | 20070    | <p>Sulfur Dioxide: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 22.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 6C, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I</p>                                                                                                                                                              |
| COMG 21 | 20080    | <p>Volatile Organic Compounds: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure VOC as mass emissions in lb/hr from STRU 22.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 25A, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| COMG 21 | 21290    | <p>HAPs - Single: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to verify the emission factors for speciated HAPs (lb/hr).</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18, 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| COMG 21 | 21291    | <p>Nitrogen Oxides: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 22 due 60 calendar days after the Permittee replaces any existing NOx-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new NOx-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 21. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 7E, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                          |
| COMG 21 | 21292    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 22 due 60 calendar days after the Permittee replaces any existing PM10-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new PM10-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 21. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                   |
| COMG 21 | 21293    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 22 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new PM2.5-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 21. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                         |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| COMG 21 | 21294    | Particulate Matter: The Permittee shall conduct a performance test to measure emissions from STRU 22 due 60 calendar days after the Permittee replaces any existing PM-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new PM-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 21. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                     |
| COMG 21 | 21295    | Carbon Monoxide: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 22 due 60 calendar days after the Permittee replaces any existing CO-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new CO-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 21. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]     |
| COMG 21 | 21296    | Sulfur Dioxide: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 22 due 60 calendar days after the Permittee replaces any existing SO2-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new SO2-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 21. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 6C, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                |
| COMG 21 | 21297    | Volatile Organic Compounds: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 22 due 60 calendar days after the Permittee replaces any existing VOC-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new VOC-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 21. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 25A, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| COMG 21 | 21298    | HAPs - Single: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 22 due 60 calendar days after the Permittee replaces any existing HAPs-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new HAPs-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 21. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 18, 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 21. [Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Title I Condition: Avoid major source under 40 CFR 63.2]                      |
| COMG 22 | 1        | COMG 22 requirements will become effective upon startup of TREA 27 replacing TREA 14. [Minn. R. 7007.0800, subp. 2(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 22 | 2        | The Permittee must limit emissions of Particulate Matter $\leq 13.5$ pounds per hour 3-hour average from STRU 57. Thermal oxidizer-controlled equipment for the purposes of COMG 22 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any PM-emitting equipment, adds new PM-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 22, TREA 27 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                    |
| COMG 22 | 3        | The Permittee must limit emissions of PM $< 10$ micron $\leq 13.5$ pounds per hour 3-hour average from STRU 57. Thermal oxidizer-controlled equipment for the purposes of COMG 22 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any PM10-emitting equipment, adds new PM10-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 22, TREA 27 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                             |
| COMG 22 | 4        | The Permittee must limit emissions of PM $< 2.5$ micron $\leq 13.5$ pounds per hour 3-hour average from STRU 57. Thermal oxidizer-controlled equipment for the purposes of COMG 22 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any PM2.5-emitting equipment, adds new PM2.5-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 22, TREA 27 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                               |
| COMG 22 | 5        | The Permittee must limit emissions of Volatile Organic Compounds $\leq 12.0$ pounds per hour 12-month rolling average as mass from STRU 57. Thermal oxidizer-controlled equipment for the purposes of COMG 22 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any VOC-emitting equipment, adds new VOC-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 22, TREA 27 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| COMG 22 | 6        | The Permittee must limit emissions of Carbon Monoxide $\leq 100$ parts per million or 90 percent reduction from STRU 57. Thermal oxidizer-controlled equipment for the purposes of COMG 22 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any CO-emitting equipment, adds new CO-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 22, TREA 27 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 22 | 7        | The Permittee must limit emissions of Carbon Monoxide $\leq 13.1$ pounds per hour 3-hour average from STRU 57. Thermal oxidizer-controlled equipment for the purposes of COMG 22 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any CO-emitting equipment, adds new CO-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 22, TREA 27 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                  |
| COMG 22 | 8        | The Permittee must limit emissions of Sulfur Dioxide $\leq 50.0$ pounds per hour 3-hour average from STRU 57. Thermal oxidizer-controlled equipment for the purposes of COMG 22 limits are defined to include dryers/ovens, fermentation equipment, material handling equipment, and separation equipment. If the Permittee replaces any SO <sub>2</sub> -emitting equipment, adds new SO <sub>2</sub> -emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 22, TREA 27 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                  |
| COMG 22 | 3450     | Opacity $\leq 20$ percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies individually to EQUI 20 and EQUI 61. [Minn. R. 7011.0610, subp. 1(A)(2)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| COMG 22 | 3455     | Sulfur Dioxide $\leq 2.0$ pounds per million Btu heat input when burning liquid fossil fuels. The potential to emit from the unit is 0.0006 lb/MMBtu due to equipment design and allowable fuels. This limit applies individually to EQUI 20 and EQUI 61. [Minn. R. 7011.0610, subp. 2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMG 22 | 3460     | Particulate Matter $\leq 0.30$ grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to EQUI 20 and EQUI 61. [Minn. R. 7011.0610, subp. 1(A)(1)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMG 22 | 3680     | Opacity $\leq 20$ percent opacity. This limit applies individually to each member of COMG 22, except EQUI 20 and EQUI 61. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 22 | 3690     | Particulate Matter $\leq 0.30$ grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each member of COMG 22, except EQUI 20 and EQUI 61. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMG 22 | 3691     | Recordkeeping: Once each operating day, the Permittee must record the syrup feed rate. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| COMG 22 | 3692     | COMG 22 OS #1: The Permittee must vent emissions from all emission units that vent to STRU 57, including existing, modified, or new units that vent to STRU 57 to a RTO that meets the requirements of TREA 27 whenever any emission unit that vents to STRU 57 operates except as otherwise authorized by this permit, and must operate and maintain a RTO that meets the requirements of TREA 27 at all times that any emissions vent to it. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                         |
| COMG 22 | 3693     | COMG 22 OS #2 RTO Bypass: The Permittee is authorized to bypass the RTO and vent emissions to STRU 8 for up to 1,000 hours per year. See COMG 14 for applicable limits and requirements. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMG 22 | 3694     | Emissions from centrifuges are authorized by this permit to vent to either STRU 57 (indirect) or STRU 41 (direct) under limited conditions. See COMG 20 for applicable limits, recordkeeping and reporting requirements. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| COMG 22 | 3695     | Emissions from any whole stillage tank are authorized by this permit to vent to STRU 57 (indirect) and STRU 45 (direct). See EQUI 195 for applicable limits, recordkeeping and reporting requirements for direct emissions. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 22 | 3696     | Emissions from any thin stillage tank are authorized by this permit to vent to STRU 57 (indirect) and STRU 46 (direct). See EQUI 196 for applicable limits, recordkeeping and reporting requirements for direct emissions. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 22 | 3697     | Emissions from any syrup tank are authorized by this permit to vent to STRU 57 (indirect) and STRUs 47 and 48 (direct). See EQUIs 197 and 211 for applicable limits, recordkeeping and reporting requirements for direct emissions. [Minn. R. 7007.0800, subp. 11, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| COMG 22 | 3699     | The Permittee must limit Short-Term Process Throughput <= 715 gallons per minute 3-hour block average beer feed rate to the distillation process unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.<br>The highest process throughput rate as of permit issuance of permit 04500049-102 is 715 gallons per minute. The maximum capacity for beer feed throughput is 715 gallons per minute 3 hour block average. [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                          |
| COMG 22 | 3700     | The Permittee must limit Short-Term Process Throughput <= 142.3 gallons per minute 3-hour average ethanol production rate based on feed rate to ethanol storage unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form. The highest process throughput rate as of permit issuance of permit 04500049-102 is 142.3 gallons per minute. The maximum capacity for ethanol production throughput is 142.3 gallons per minute 3 hour block average. [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2] |
| COMG 22 | 3701     | Short-Term Process Throughput: Daily Recordkeeping. On each day of operation the Permittee must calculate, record, and maintain a record of the beer feed and ethanol production throughput on a 3 hour block average. This must be recorded in usage logs. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                     |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| COMG 22 | 3703     | <p><b>Protocol for Resetting the Short-Term Process Throughput Limit:</b></p> <p>The Permittee shall conduct performance testing to measure the PM, PM10, PM2.5, CO, SO2 and VOC emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| COMG 22 | 3704     | <p><b>Procedure to Increase the Short-Term Process Throughput Limit:</b></p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 27.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 22 | 3705     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| COMG 22 | 3706     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COMG 22 | 19710    | <p>Nitrogen Oxides: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to verify the emission factor of 0.066 lb NOx/MMBtu from STRU 57.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 7E, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

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| COMG 22 | 19880    | <p>PM &lt; 10 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions in lb/hr from STRU 57.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I</p> |
|         |          | <p>Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMG 22 | 19890    | <p>PM &lt; 2.5 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions in lb/hr from STRU 57.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                       |
|         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| COMG 22 | 19900    | <p>Particulate Matter: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions in lb/hr from STRU 57.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                  |
|         |          | <p>Carbon Monoxide: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions in lb/hr from STRU 57.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 10, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 22 | 19910    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



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| COMG 22 | 19930    | <p>Sulfur Dioxide: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions in lb/hr from STRU 57.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 6C, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                            |
|         |          | <p>Volatile Organic Compounds: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure VOC as mass emissions in lb/hr from STRU 57.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 25A, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 22 | 19940    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| COMG 22 | 21270    | <p>HAPs - Single: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to verify the emission factors for speciated HAPs (lb/hr) from STRU 57.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18, 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| COMG 22 | 21271    | <p>Nitrogen Oxides: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 57 due 60 calendar days after the Permittee replaces any existing NOx-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new NOx-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 22. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 7E, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COMG 22 | 21272    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 57 due 60 calendar days after the Permittee replaces any existing PM10-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new PM10-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 22. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| COMG 22 | 21273    | PM < 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 57 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new PM2.5-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 22. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                        |
| COMG 22 | 21274    | Particulate Matter: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 57 due 60 calendar days after the Permittee replaces any existing PM-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new PM-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 22. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                              |
| COMG 22 | 21275    | Carbon Monoxide: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 57 due 60 calendar days after the Permittee replaces any existing CO-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new CO-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 22. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 10, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 22 | 21276    | Sulfur Dioxide: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 57 due 60 calendar days after the Permittee replaces any existing SO2-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new SO2-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 22. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 6C, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                  |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| COMG 22 | 21277    | Volatile Organic Compounds: The Permittee shall conduct a performance test to measure emissions from STRU 57 due 60 calendar days after the Permittee replaces any existing VOC-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new VOC-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 22. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 25A, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. |
| COMG 22 | 21278    | HAPs - Single: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 57 due 60 calendar days after the Permittee replaces any existing HAPs-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, adds new HAPs-emitting dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, or modifies the existing equipment in COMG 22. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 18, 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 22. [Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                            |
| COMG 23 | 1        | The Permittee must limit emissions of Particulate Matter $\leq 0.410$ pounds per hour 3-hour average from STRU 29. Hammermill equipment for the purposes of COMG 23 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM-emitting hammermill equipment, adds new PM-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 23, TREA 7 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                         |
| COMG 23 | 2        | The Permittee must limit emissions of PM $< 10$ micron $\leq 0.410$ pounds per hour 3-hour average from STRU 29. Hammermill equipment for the purposes of COMG 23 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM10-emitting hammermill equipment, adds new PM10-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 23, TREA 7 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                  |
| COMG 23 | 3        | The Permittee must limit emissions of PM $< 2.5$ micron $\leq 0.410$ pounds per hour 3-hour average from STRU 29. Hammermill equipment for the purposes of COMG 23 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM2.5-emitting hammermill equipment, adds new PM2.5-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 23, TREA 7 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                    |
| COMG 23 | 3680     | Opacity $\leq 20$ percent opacity. This limit applies individually to each member of COMG 23. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| COMG 23 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each member of COMG 23. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMG 23 | 3691     | The Permittee must vent emissions from all hammermill equipment, including existing, modified, or new hammermill equipment to control equipment meeting the requirements of TREA 7. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMG 23 | 3693     | <p>The Permittee must limit Combined Hammermill Short-Term Process Throughput &lt;= 81.7 tons per hour 3-hour average of grain throughput based on grain receipts as determined during the October 15-18, 2024 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.</p> <p>The highest process throughput rate as of permit issuance of permit 04500049-102 for grain throughput is 81.7 tons/hour based on the process throughput rate achieved in the October 15-18, 2024 performance test. The maximum capacity for grain throughput is 81.7 tons per hour 3 hour block average. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMG 23 | 3695     | <p>Protocol for Resetting the Short-Term Process Throughput Limit:</p> <p>The Permittee shall conduct performance testing to measure the PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

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| COMG 23 | 3696     | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 7.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 23 | 3697     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 23 | 3698     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMG 23 | 20020    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 29.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 23.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| COMG 23 | 20030    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 29.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 23.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 23 | 20040    | <p>Particulate Matter: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 29.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 23.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>    |
| COMG 23 | 20041    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 29 due 60 calendar days after the Permittee replaces any existing PM10-emitting conveyors, elevators and milling equipment, adds new PM10-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 23. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 23. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                    |

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| COMG 23 | 20042    | PM < 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 29 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting conveyors, elevators and milling equipment, adds new PM2.5-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 23. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 23. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 23 | 20043    | Particulate Matter: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 29 due 60 calendar days after the Permittee replaces any existing PM-emitting conveyors, elevators and milling equipment, adds new PM-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 23. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 23. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]       |
| COMG 24 | 1        | The Permittee must limit emissions of Particulate Matter <= 0.410 pounds per hour 3-hour average from STRU 30. Hammermill equipment for the purposes of COMG 24 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM-emitting hammermill equipment, adds new PM-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 24, TREA 8 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                          |
| COMG 24 | 2        | The Permittee must limit emissions of PM < 10 micron <= 0.410 pounds per hour 3-hour average from STRU 30. Hammermill equipment for the purposes of COMG 24 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM10-emitting hammermill equipment, adds new PM10-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 24, TREA 8 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]     |
| COMG 24 | 3        | The Permittee must limit emissions of PM < 2.5 micron <= 0.410 pounds per hour 3-hour average from STRU 30. Hammermill equipment for the purposes of COMG 24 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM2.5-emitting hammermill equipment, adds new PM2.5-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 24, TREA 8 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                       |
| COMG 24 | 3680     | Opacity <= 20 percent opacity. This limit applies individually to each member of COMG 24. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 24 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each member of COMG 24. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| COMG 24 | 3691     | The Permittee must vent emissions from all hammermill equipment, including existing, modified, or new hammermill equipment to control equipment meeting the requirements of TREA 8. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COMG 24 | 3693     | <p>The Permittee must limit Combined Hammermill Short-Term Process Throughput <math>\leq</math> 81.7 tons per hour 3-hour average of grain throughput based on grain receipts as determined during the October 15-18, 2024 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.</p> <p>The highest process throughput rate as of permit issuance of permit 04500049-102 for grain throughput is 81.7 tons/hour based on the process throughput rate achieved in the October 15-18, 2024 performance test. The maximum capacity for grain throughput is 81.7 tons per hour 3 hour block average. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| COMG 24 | 3695     | <p>Protocol for Resetting the Short-Term Process Throughput Limit:</p> <p>The Permittee shall conduct performance testing to measure the PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| COMG 24 | 3696     | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 8.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 24 | 3697     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 24 | 3698     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMG 24 | 20020    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 30.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 24.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| COMG 24 | 20030    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 30.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 24.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 24 | 20040    | <p>Particulate Matter: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 30.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 24.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>    |
| COMG 24 | 20041    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 30 due 60 calendar days after the Permittee replaces any existing PM10-emitting conveyors, elevators and milling equipment, adds new PM10-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 24. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 24. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                    |

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| COMG 24 | 20042    | PM < 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 30 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting conveyors, elevators and milling equipment, adds new PM2.5-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 24. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 24. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 24 | 20043    | Particulate Matter: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 30 due 60 calendar days after the Permittee replaces any existing PM-emitting conveyors, elevators and milling equipment, adds new PM-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 24. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 24. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]       |
| COMG 25 | 1        | The Permittee must limit emissions of Particulate Matter <= 0.410 pounds per hour 3-hour average from STRU 31. Hammermill equipment for the purposes of COMG 25 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM-emitting hammermill equipment, adds new PM-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 25, TREA 9 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                          |
| COMG 25 | 2        | The Permittee must limit emissions of PM < 10 micron <= 0.410 pounds per hour 3-hour average from STRU 31. Hammermill equipment for the purposes of COMG 25 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM10-emitting hammermill equipment, adds new PM10-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 25, TREA 9 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]     |
| COMG 25 | 3        | The Permittee must limit emissions of PM < 2.5 micron <= 0.410 pounds per hour 3-hour average from STRU 31. Hammermill equipment for the purposes of COMG 25 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM2.5-emitting hammermill equipment, adds new PM2.5-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 25, TREA 9 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                       |
| COMG 25 | 3680     | Opacity <= 20 percent opacity. This limit applies individually to each member of COMG 25. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 25 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each member of COMG 25. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| COMG 25 | 3691     | The Permittee must vent emissions from all hammermill equipment, including existing, modified, or new hammermill equipment to control equipment meeting the requirements of TREA 9. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 25 | 3693     | <p>The Permittee must limit Combined Hammermill Short-Term Process Throughput <math>\leq</math> 81.7 tons per hour 3-hour average of grain throughput based on grain receipts as determined during the October 15-18, 2024 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.</p> <p>The highest process throughput rate as of permit issuance of permit 04500049-102 is 81.7 tons/hour based on the process throughput rate achieved in the October 15-18, 2024 performance test. The maximum capacity for grain throughput is 81.7 tons per hour 3 hour block average. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMG 25 | 3695     | <p><b>Protocol for Resetting the Short-Term Process Throughput Limit:</b></p> <p>The Permittee shall conduct performance testing to measure the PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| COMG 25 | 3696     | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 9.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 25 | 3697     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 25 | 3698     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| COMG 25 | 20020    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 31.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 25.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| COMG 25 | 20030    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 31.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 25.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 25 | 20040    | <p>Particulate Matter: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 31.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 25.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>    |
| COMG 25 | 20041    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 31 due 60 calendar days after the Permittee replaces any existing PM10-emitting conveyors, elevators and milling equipment, adds new PM10-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 25. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 25. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                    |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| COMG 25 | 20042    | PM < 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 31 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting conveyors, elevators and milling equipment, adds new PM2.5-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 25. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 25. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 25 | 20043    | Particulate Matter: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 31 due 60 calendar days after the Permittee replaces any existing PM-emitting conveyors, elevators and milling equipment, adds new PM-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 25. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 25. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]       |
| COMG 26 | 1        | The Permittee must limit emissions of Particulate Matter <= 0.410 pounds per hour 3-hour average from STRU 32. Hammermill equipment for the purposes of COMG 26 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM-emitting hammermill equipment, adds new PM-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 26, TREA 10 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                         |
| COMG 26 | 2        | The Permittee must limit emissions of PM < 10 micron <= 0.410 pounds per hour 3-hour average from STRU 32. Hammermill equipment for the purposes of COMG 26 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM10-emitting hammermill equipment, adds new PM10-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 26, TREA 10 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]    |
| COMG 26 | 3        | The Permittee must limit emissions of PM < 2.5 micron <= 0.410 pounds per hour 3-hour average from STRU 32. Hammermill equipment for the purposes of COMG 26 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM2.5-emitting hammermill equipment, adds new PM2.5-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 26, TREA 10 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                      |
| COMG 26 | 3680     | Opacity <= 20 percent opacity. This limit applies individually to each member of COMG 26. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 26 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each member of COMG 26. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



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| COMG 26 | 3691     | The Permittee must vent emissions from all hammermill equipment, including existing, modified, or new hammermill equipment to control equipment meeting the requirements of TREA 10. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 26 | 3693     | <p>The Permittee must limit Combined Hammermill Short-Term Process Throughput <math>\leq</math> 81.7 tons per hour 3-hour average of grain throughput based on grain receipts as determined during the October 15-18, 2024 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form.</p> <p>The highest process throughput rate as of permit issuance of permit 04500049-102 is 81.7 tons/hour based on the process throughput rate achieved in the October 15-18, 2024 performance test. The maximum capacity for grain throughput is 81.7 tons per hour 3 hour block average. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| COMG 26 | 3695     | <p><b>Protocol for Resetting the Short-Term Process Throughput Limit:</b></p> <p>The Permittee shall conduct performance testing to measure the PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

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| COMG 26 | 3696     | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 10.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 26 | 3697     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 26 | 3698     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 26 | 20020    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 32.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 26.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| COMG 26 | 20030    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 32.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 26.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 26 | 20040    | <p>Particulate Matter: The Permittee shall conduct a performance test due before 10/31/2029 and every 60 months thereafter to measure emissions in lb/hr from STRU 32.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 26.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>    |
| COMG 26 | 20041    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 32 due 60 calendar days after the Permittee replaces any existing PM10-emitting conveyors, elevators and milling equipment, adds new PM10-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 26. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 26. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                    |

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| COMG 26 | 20042    | PM < 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 32 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting conveyors, elevators and milling equipment, adds new PM2.5-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 26. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 26. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| COMG 26 | 20043    | Particulate Matter: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 32 due 60 calendar days after the Permittee replaces any existing PM-emitting conveyors, elevators and milling equipment, adds new PM-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 26. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 26. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]       |
| COMG 27 | 1        | The Permittee must limit emissions of Particulate Matter <= 0.410 pounds per hour 3-hour average from STRU 58. Hammermill equipment for the purposes of COMG 27 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM-emitting hammermill equipment, adds new PM-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 27, TREA 26 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                         |
| COMG 27 | 2        | The Permittee must limit emissions of PM < 10 micron <= 0.410 pounds per hour 3-hour average from STRU 58. Hammermill equipment for the purposes of COMG 27 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM10-emitting hammermill equipment, adds new PM10-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 27, TREA 26 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]    |
| COMG 27 | 3        | The Permittee must limit emissions of PM < 2.5 micron <= 0.410 pounds per hour 3-hour average from STRU 58. Hammermill equipment for the purposes of COMG 27 limits are defined to include all conveyors, elevators and milling equipment. If the Permittee replaces any existing PM2.5-emitting hammermill equipment, adds new PM2.5-emitting hammermill equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 27, TREA 26 and TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. The Permittee must still complete the calculations described in Minn. R. 7007.1200, subp. 3 to determine if a permit amendment is needed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                      |
| COMG 27 | 3680     | Opacity <= 20 percent opacity. This limit applies individually to each member of COMG 27. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| COMG 27 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each member of COMG 27. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| COMG 27 | 3691     | The Permittee must vent emissions from all hammermill equipment, including existing, modified, or new hammermill equipment to control equipment meeting the requirements of TREA 26. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| COMG 27 | 3693     | The Permittee must limit Combined Hammermill Short-Term Process Throughput $\leq$ 81.7 tons per hour 3-hour average of grain throughput based on grain receipts unless a new limit is set pursuant to Minn. R. 7017.2025. Missed readings and recorded values outside the indicator ranges specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported on the applicable DRF-2 Form. The highest process throughput rate as of permit issuance of permit 04500049-102 for grain throughput is 81.7 tons/hour. The maximum capacity for grain throughput is 81.7 tons per hour 3 hour block average. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| COMG 27 | 3695     | <p>Protocol for Resetting the Short-Term Process Throughput Limit:</p> <p>The Permittee shall conduct performance testing to measure the PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Short-Term Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|         |          | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 26.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 27 | 3696     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COMG 27 | 3697     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COMG 27 | 3698     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| COMG 27 | 19880    | <p>PM &lt; 10 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions in lb/hr from STRU 58.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 27.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I</p> |
|         |          | <p>Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| COMG 27 | 19890    | <p>PM &lt; 2.5 micron: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions in lb/hr from STRU 58.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 27.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                       |
|         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| COMG 27 | 19900    | <p>Particulate Matter: The Permittee shall conduct an initial performance test due 180 calendar days after Initial Startup Date and at a minimum every 60 months thereafter to measure emissions in lb/hr from STRU 58.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 27.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| COMG 27 | 19901    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 58 due 60 calendar days after the Permittee replaces any existing PM10-emitting conveyors, elevators and milling equipment, adds new PM10-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 27. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 27. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COMG 27 | 19902    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 58 due 60 calendar days after the Permittee replaces any existing PM2.5-emitting conveyors, elevators and milling equipment, adds new PM2.5-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 27. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 27. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



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| COMG 27 | 19903    | <p>Particulate Matter: The Permittee shall conduct a performance test to measure emissions in lb/hr from STRU 58 due 60 calendar days after the Permittee replaces any existing PM-emitting conveyors, elevators and milling equipment, adds new PM-emitting conveyors, elevators and milling equipment, or modifies the existing equipment in COMG 27. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at COMG 27. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| EQUI 1  | 8320     | <p>The Permittee shall limit Opacity &lt;= 5 percent opacity from truck unloading station, railcar unloading station and railcar loading station fugitive emissions. This requirement applies on and after the 60th day of achieving the maximum production rate, but no later than 180 days after initial startup. [40 CFR 60.302(c)(1) &amp; Minn. R. 7011.1005, subp. 2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EQUI 1  | 8330     | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. DD as follows:</p> <p>40 CFR 60.300;<br/>40 CFR 60.301;<br/>40 CFR 60.302(c)(1);<br/>40 CFR 60.303; and<br/>40 CFR 60.304.</p> <p>A copy of 40 CFR pt. 60, subp. DD is included in Appendix I.</p> <p>If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. DD, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.1005, subp. 2]</p>                                                                                                                                                                                                                                                                                                                                    |
| EQUI 1  | 8340     | <p>Visible Emissions (VE) Inspection: The Permittee must conduct visible emissions (VE) readings using Method 22 or an alternative method approved by the MPCA at the observation location for EQUI 1 at least once each day of operation while grain is being unloaded from a truck. The visible emissions check must be conducted from a location perpendicular to the plume and at least 15 feet away during daylight hours, and the observation period must be no less than 10 minutes. The observer must select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions must be recorded. Each observer determining the presence of visible emissions must meet the training requirements specified in 40 CFR pt. 60, appendix A-7, section 2.3 of Method 22. [Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                        |
| EQUI 1  | 8350     | <p>Recordkeeping of VE Inspection: The Permittee must record the time and date of each visible emissions inspection, the name and location of the observer, whether or not any visible emissions were observed, and a description of the corrective actions taken if visible emissions were observed. The presence of visible emissions at the unloading station is considered a deviation and must be reported in the semiannual deviations report required by this permit. If no grain is unloaded at EQUI 1 during the operating day, then the Permittee must record that no grain was unloaded. [Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EQUI 1  | 8360     | <p>Corrective Actions: The Permittee must take corrective action as soon as possible if visible emissions are observed at EQUI 1. Corrective actions include, but are not limited to, O&amp;M and best management practices outlined in the Fugitive Emission Control Plan (FECF) for the operations, reducing the truck loading rate, closing the pit door during loading operations, and ceasing operations until no visible emissions are observed. Corrective actions must return the affected facility operation to a condition where the facility does not exceed opacity limits. The Permittee must keep a record of the type and date of any corrective action taken, and whether or not the corrective actions eliminated the visible emissions. [Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                             |
| EQUI 1  | 19985    | <p>Opacity: The Permittee shall conduct a performance test due 180 calendar days after Permit Issuance Date to measure opacity. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 9, or other method approved by MPCA in the performance test plan approval. [40 CFR 60.302(c)(1), Minn. R. 7011.1005, subp. 2, Minn. R. 7017.2020, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| EQUI 1 | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.1(a)-(c);<br/> 40 CFR 60.2;<br/> 40 CFR 60.3;<br/> 40 CFR 60.4;<br/> 40 CFR 60.8(a)-(i); and<br/> 40 CFR 60.11.</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. DD, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.1005, subp. 2, Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 1 | 35730    | The Permittee shall submit a notification of anticipated date for conducting opacity observations: Due 30 calendar days before Opacity Observation Date. [40 CFR 60.7(a)(6), Minn. R. 7019.0100, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 5 | 3390     | Opacity <= 5 percent opacity from truck unloading stations, railcar unloading stations, railcar loading stations, and handling operation fugitive emissions. [Minn. R. 7011.1005, subp. 3(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 8 | 3350     | The Permittee must clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (reasonably available control technology). [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.1005, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 8 | 3390     | Opacity <= 5 percent opacity from truck unloading stations, railcar unloading stations, railcar loading stations, and handling operation fugitive emissions. [Minn. R. 7011.1005, subp. 3(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 8 | 3391     | <p>Visible Emissions: The Permittee shall conduct visible emissions (VE) readings at a downwind door once each day of operation while DDGS is being handled. The visible emissions check must be conducted from a location perpendicular to the plume and at least 15 feet away during daylight hours. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions must be recorded. If after one year of VE readings no visible emissions are recorded, the Permittee may reduce the frequency to once each week of operation while DDGS is being handled.</p> <p>If the VE readings are conducted by a certified opacity reader, the Permittee has the option of immediately determining the opacity from the emissions source using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations found in Appendix H of this permit. If the opacity results are less than the permit requirement, the Permittee is not required to take further corrective actions, nor report a deviation. If any corrective actions are to be reversed subsequent to the opacity readings, a subsequent VE reading shall be conducted to verify that no visible emissions are present. The Permittee shall maintain records of all observations.</p> <p>As an alternative to conducting the initial VE readings, the Permittee may determine initial compliance with the opacity limits using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations found in Appendix H of this permit using a certified observer. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A)]</p> |
| EQUI 8 | 3392     | Corrective Actions: If visible emissions are observed, the Permittee must take corrective actions to eliminate visible emissions as soon as possible, unless the Permittee determines that the opacity is less than the permit requirement using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations. Corrective actions should include, but are not limited to, O&M and best management practices outlined in the Fugitive Emission Control Plan (FECF) for the operations. Corrective actions shall return the affected facility operation to a condition where there are no visible emissions. [Minn. R. 7007.0800, subp. 2(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| EQUI 8 | 3393     | Recordkeeping of Visible Emissions. The Permittee shall record the time and date of each visible emission check, the name and location of the observer, whether or not any visible emissions were observed, and a description of the corrective actions taken if visible emissions were observed. If visible emissions are identified, the observer should note which equipment was in operation, which equipment or activity was the likely source of the visible emission and weather conditions, such as wind direction and estimated speed. If the Permittee determines that the opacity results are less than the permit requirement using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations, the Permittee is not required to take corrective actions, nor report a deviation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                                              |
| EQUI 8 | 3394     | The Permittee must limit the hours of DDGS loadout operations each day to the hours of 5AM to 7PM. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 9 | 4        | Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis for the previous calendar month. These records may consist of fuel bills or meter readings. See COMG 4 for additional EQUI 9 requirements. [40 CFR 60.13(i), 40 CFR 60.13(i)(EPA memo) Dated Feb 20, 1992, 40 CFR 60.48c(g) & (i), 40 CFR 60.48c(i), CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.0570, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EQUI 9 | 5        | The Permittee must limit emissions of Sulfur Dioxide $\leq 0.043$ pounds per hour 3-hour average. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 9 | 4825     | Fuel type: Natural gas only, by design. [Minn. R. 7005.0100, subp. 35a]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 9 | 4830     | Recordkeeping: By the last day of each calendar month, the Permittee shall record the amount of natural gas combusted in the boilers during the previous calendar month. These records shall consist of purchase records, receipts, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7011.0570]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EQUI 9 | 19850    | <p>Nitrogen Oxides: The Permittee shall conduct a performance test due before 7/19/2029 and every 120 months thereafter to verify the emission factor of 0.04 lb/MMBtu.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 120 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 7E, or other method approved by MPCA in the performance test plan approval.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| EQUI 9  | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.1(a);<br/> 40 CFR 60.1(b);<br/> 40 CFR 60.1(c);<br/> 40 CFR 60.2;<br/> 40 CFR 60.3;<br/> 40 CFR 60.4;<br/> 40 CFR 60.5(a);<br/> 40 CFR 60.5(b);<br/> 40 CFR 60.6(a);<br/> 40 CFR 60.6(b);<br/> 40 CFR 60.7(a)(4);<br/> 40 CFR 60.7(b);<br/> 40 CFR 60.9;<br/> 40 CFR 60.11(d);<br/> 40 CFR 60.11(f);<br/> 40 CFR 60.11(g);<br/> 40 CFR 60.12;<br/> 40 CFR 60.14(a);<br/> 40 CFR 60.14(b);<br/> 40 CFR 60.14(c);<br/> 40 CFR 60.14(e);</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|         |          | <p>40 CFR 60.14(f);<br/> 40 CFR 60.14(g);<br/> 40 CFR 60.15(a);<br/> 40 CFR 60.15(b);<br/> 40 CFR 60.15(c);<br/> 40 CFR 60.15(d);<br/> 40 CFR 60.15(e);<br/> 40 CFR 60.15(f);<br/> 40 CFR 60.15(g);<br/> 40 CFR 60.17;<br/> 40 CFR 60.19(a);<br/> 40 CFR 60.19(b);<br/> 40 CFR 60.19(c);<br/> 40 CFR 60.19(d);<br/> 40 CFR 60.19(e);<br/> 40 CFR 60.19(f)(1);<br/> 40 CFR 60.19(f)(2);<br/> 40 CFR 60.19(f)(3); and<br/> 40 CFR 60.19(f)(4).</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. Dc, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.0570, Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p> |
| EQUI 14 | 4        | <p>Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis for the previous calendar month. These records may consist of fuel bills or meter readings. See COMG 4 for additional EQUI 14 requirements. [40 CFR 60.13(i), 40 CFR 60.13(i)(EPA memo) Dated Feb 20, 1992, 40 CFR 60.48c(g) &amp; (i), 40 CFR 60.48c(i), CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.0570, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| EQUI 14 | 5        | The Permittee must limit emissions of Sulfur Dioxide $\leq 0.037$ pounds per hour 3-hour average. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 14 | 4825     | Fuel type: Natural gas only, by design. [Minn. R. 7005.0100, subp. 35a]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 14 | 4830     | Recordkeeping: By the last day of each calendar month, the Permittee shall record the amount of natural gas combusted in the boilers during the previous calendar month. These records shall consist of purchase records, receipts, or fuel meter readings. [40 CFR 60.48c(g), Minn. R. 7011.0570]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EQUI 14 | 19850    | <p>Nitrogen Oxides: The Permittee shall conduct a performance test due before 7/19/2029 and every 120 months thereafter to verify the emission factor of 0.04 lb/MMBtu.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 120 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 7E, or other method approved by MPCA in the performance test plan approval.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| EQUI 14 | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.1(a);<br/> 40 CFR 60.1(b);<br/> 40 CFR 60.1(c);<br/> 40 CFR 60.2;<br/> 40 CFR 60.3;<br/> 40 CFR 60.4;<br/> 40 CFR 60.5(a);<br/> 40 CFR 60.5(b);<br/> 40 CFR 60.6(a);<br/> 40 CFR 60.6(b);<br/> 40 CFR 60.7(a)(4);<br/> 40 CFR 60.7(b);<br/> 40 CFR 60.9;<br/> 40 CFR 60.11(d);<br/> 40 CFR 60.11(f);<br/> 40 CFR 60.11(g);<br/> 40 CFR 60.12;<br/> 40 CFR 60.14(a);<br/> 40 CFR 60.14(b);<br/> 40 CFR 60.14(c);<br/> 40 CFR 60.14(e);<br/> 40 CFR 60.14(f);<br/> 40 CFR 60.14(g);</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|         |          | <p>40 CFR 60.15(a);<br/> 40 CFR 60.15(b);<br/> 40 CFR 60.15(c);<br/> 40 CFR 60.15(d);<br/> 40 CFR 60.15(e);<br/> 40 CFR 60.15(f);<br/> 40 CFR 60.15(g);<br/> 40 CFR 60.17;<br/> 40 CFR 60.19(a);<br/> 40 CFR 60.19(b);<br/> 40 CFR 60.19(c);<br/> 40 CFR 60.19(d);<br/> 40 CFR 60.19(e);<br/> 40 CFR 60.19(f)(1);<br/> 40 CFR 60.19(f)(2);<br/> 40 CFR 60.19(f)(3); and<br/> 40 CFR 60.19(f)(4).</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. Dc, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.0570, Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p> |
| EQUI 20 | 1        | <p>Emergency Bypass Use: The Permittee may bypass TREA 14 (RTO) when the DDGS dryers are in operation only when plant or worker safety would be in jeopardy without the use of the bypass. Each period of bypass use, while the DDGS dryers are operated, shall be recorded in the daily operating record. The record shall include the date, start time of use, duration of use, and the facility operating conditions during its use. For periods of bypass use while the DDGS dryers are operated and the facility does not follow the SSM procedures, the Permittee shall conduct a root-cause failure analysis of the event and submit a report of the analysis to the Commissioner within 15 days.</p> <p>The emissions emitted during a bypass event shall be considered uncontrolled and shall be reported as a deviation. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                      |
| EQUI 20 | 2        | <p>Thermal Oxidizer Burnouts and Other Maintenance Activities: During thermal oxidizer malfunctions and any other maintenance for which the manufacturer recommends dryer emissions bypass the thermal oxidizer, the dryer shall be shutdown. Wet DDGS shall be stored and handled to minimize VOC emissions and odors during these maintenance activities.</p> <p>The Permittee shall maintain a record of such maintenance activities in the O &amp; M plan for TREA 14. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 16(J)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 20 | 3        | <p>Thermal Oxidizer Breakdown: In the event of a breakdown of the thermal oxidizer, the Permittee shall stop feed into the dryer as soon as the breakdown is discovered. Dryer operation may continue as long as necessary to empty the dryer. The Permittee shall also submit the notification required by Minn. R. 7019.1000, subp. 2, if required. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 23 | 1        | <p>The Permittee must vent emissions from EQUI 23 to a fabric filter that meets the requirements of TREA 22 whenever EQUI 23 operates, and must operate and maintain a fabric filter that meets the requirements of TREA 22 at all times that any emissions vent to it. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 23 | 2        | <p>The Permittee must limit emissions of Volatile Organic Compounds &lt;= 8.0 pounds per hour 3-hour block average as total mass VOC. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| EQUI 23 | 3        | The Permittee must limit emissions of Particulate Matter $\leq 2.74$ pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 23 | 4        | The Permittee must limit emissions of PM $< 10$ micron $\leq 2.74$ pounds per hour 3-hour average. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EQUI 23 | 5        | The Permittee must limit emissions of PM $< 2.5$ micron $\leq 2.74$ pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 23 | 6        | The Permittee must limit emissions of Sulfur Dioxide $\leq 0.84$ pounds per hour 3-hour average. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 23 | 3680     | Opacity $\leq 20$ percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 23 | 3690     | Particulate Matter $\leq 0.30$ grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EQUI 23 | 3691     | <p>The Permittee must limit Short-Term Process Throughput <math>\leq 715</math> gallons per minute 3-hour block average beer feed rate to the distillation process unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 as detailed in the Protocol for Resetting Short-Term Process Throughput Limits.</p> <p>The Permittee must maintain at the facility adequate records to demonstrate continuous compliance with these operating condition limitations. Recorded values outside the range specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a, and must be reported. [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 23 | 3692     | <p>Protocol for Resetting the Short-Term Process Throughput Limits:</p> <p>The Permittee shall conduct performance testing to measure VOC as mass and PM, PM<sub>10</sub> and PM<sub>2.5</sub> emission rates as required elsewhere in this permit. If the established Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

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|         |          | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <p>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</p> <p>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</p> <p>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at TREA 22.</p> <p>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</p> <p>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</p> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7017.0080, subp. 2(A), Minn. R. 7017.2017, Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2]</p> |
| EQUI 23 | 3693     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 23 | 3694     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 23 | 3695     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EQUI 23 | 3696     | <p>Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. It is possible that the change may trigger a Title I modification, or another type of modification under state rules. The Permittee must complete the calculations and analysis as described in Minn. R. 7007.1200, subp. 2 and subp. 3 for any change.</p> <p>A permit amendment will still be needed regardless of the emissions increase if the change will be subject to a new applicable requirement or requires revisions to the limits or monitoring and recordkeeping in this permit. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 23 | 3697     | <p>The Permittee shall submit a notification: due 15 days after the date on which the processing aid for mitigation of Deoxynivalenol (DON) mycotoxin was used. The notification shall include the date on which the processing aid was first used at the facility for mitigation of DON mycotoxin. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



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| EQUI 23 | 19930    | <p>Sulfur Dioxide: The Permittee shall conduct an initial performance test due 180 calendar days after start of Process Aid use and at a minimum every 60 months thereafter to measure emissions.</p> <p>The Commissioner will set the subsequent test frequency as stated in a follow up compliance letter with review of the initial performance test. Subsequent tests shall be completed no less than every 60-months by the due date (month and day) based on the initial test date or more frequently as stated in the follow up compliance letter.</p> <p>If the Commissioner sets a test frequency at less than every 60 months, the Permittee must apply for an administrative amendment to incorporate the prescribed test frequency into the permit. A major amendment is required to reduce the test frequency once set in the permit.</p> <p>The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 6C, or other method approved by MPCA in the performance test plan approval.</p> <p>Testing conducted during the 60 days prior to a performance test due date will not reset the due date for future testing.</p> <p>Testing conducted more than 60 days prior to the specified due date satisfies this test due date requirement but will reset future performance test due dates based on the most recent performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
|         | 20020    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test due before 8/10/2028 and every 36 months thereafter to measure emissions.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 36 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 23.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                              |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| EQUI 23 | 20030    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test due before 8/10/2028 and every 36 months thereafter to measure emissions.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 36 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 23.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                 |
| EQUI 23 | 20040    | <p>Particulate Matter: The Permittee shall conduct a performance test due before 8/10/2028 and every 36 months thereafter to measure emissions.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 36 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 23.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                    |
| EQUI 23 | 20080    | <p>Volatile Organic Compounds: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions of VOC as mass (lb/hr).</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 25A, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 23.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| EQUI 23 | 21290    | <p>HAPs - Single: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to verify the emission factors for speciated HAPs.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 18, 320, or other method approved by MPCA in the performance test plan approval. At a minimum, the Permittee must test for acetaldehyde, acrolein, formaldehyde and methanol. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 23.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| EQUI 28 | 8320     | <p>The Permittee shall limit Opacity &lt;= 5 percent opacity from truck unloading station, railcar unloading station and railcar loading station fugitive emissions. This requirement applies on and after the 60th day of achieving the maximum production rate, but no later than 180 days after initial startup. [40 CFR 60.302(c)(1) &amp; Minn. R. 7011.1005, subp. 2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 28 | 8330     | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. DD as follows:</p> <p>40 CFR 60.300;<br/> 40 CFR 60.301;<br/> 40 CFR 60.302(c)(1);<br/> 40 CFR 60.303; and<br/> 40 CFR 60.304.</p> <p>A copy of 40 CFR pt. 60, subp. DD is included in Appendix I.</p> <p>If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. DD, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.1005, subp. 2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EQUI 28 | 8340     | <p>Visible Emissions (VE) Inspection: The Permittee must conduct visible emissions (VE) readings using Method 22 or an alternative method approved by the MPCA at the observation location for EQUI 28 at least once each day of operation while grain is being unloaded from a truck. The visible emissions check must be conducted from a location perpendicular to the plume and at least 15 feet away during daylight hours, and the observation period must be no less than 10 minutes. The observer must select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions must be recorded. Each observer determining the presence of visible emissions must meet the training requirements specified in 40 CFR pt. 60, appendix A-7, section 2.3 of Method 22. [Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 28 | 8350     | <p>Recordkeeping of VE Inspection: The Permittee must record the time and date of each visible emissions inspection, the name and location of the observer, whether or not any visible emissions were observed, and a description of the corrective actions taken if visible emissions were observed. The presence of visible emissions at the unloading station is considered a deviation and must be reported in the semiannual deviations report required by this permit. If no grain is unloaded at EQUI 28 during the operating day, then the Permittee must record that no grain was unloaded. [Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| EQUI 28 | 8360     | <p>Corrective Actions: The Permittee must take corrective action as soon as possible if visible emissions are observed at EQUI 28. Corrective actions include, but are not limited to, O&amp;M and best management practices outlined in the Fugitive Emission Control Plan (FECF) for the operations, reducing the truck loading rate, closing the pit door during loading operations, and ceasing operations until no visible emissions are observed. Corrective actions must return the affected facility operation to a condition where the facility does not exceed opacity limits. The Permittee must keep a record of the type and date of any corrective action taken, and whether or not the corrective actions eliminated the visible emissions. [Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                        |
| EQUI 28 | 19985    | <p>Opacity: The Permittee shall conduct a performance test due 180 calendar days after Permit Issuance Date to measure opacity. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 9, or other method approved by MPCA in the performance test plan approval. [40 CFR 60.302(c)(1), Minn. R. 7011.1005, subp. 2, Minn. R. 7017.2020, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 28 | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.1(a)-(c);<br/> 40 CFR 60.2;<br/> 40 CFR 60.3;<br/> 40 CFR 60.4;<br/> 40 CFR 60.8(a)-(i); and<br/> 40 CFR 60.11.</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. DD, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.1005, subp. 2, Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p>                                                                                                                                                                           |
| EQUI 28 | 35730    | <p>The Permittee shall submit a notification of anticipated date for conducting opacity observations: Due 30 calendar days before Opacity Observation Date. [40 CFR 60.7(a)(6), Minn. R. 7019.0100, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 34 | 20380    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. Kb as follows:</p> <p>40 CFR 60.110b(a);<br/> 40 CFR 60.111b;<br/> 40 CFR 60.112b(a);<br/> 40 CFR 60.112b(a)(1)(i);<br/> 40 CFR 60.112b(a)(1)(ii)(B);<br/> 40 CFR 60.112b(a)(1)(iii)-(ix);<br/> 40 CFR 60.113b(a)(1);<br/> 40 CFR 60.113b(a)(3)(ii);<br/> 40 CFR 60.113b(a)(4);<br/> 40 CFR 60.113b(a)(5);<br/> 40 CFR 60.115b(a)(1);<br/> 40 CFR 60.115b(a)(2);<br/> 40 CFR 60.115b(a)(4);<br/> 40 CFR 60.116b(a); and<br/> 40 CFR 60.116b(c).</p> <p>A copy of 40 CFR pt. 60, subp. Kb is included in Appendix G.</p> <p>If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.1520(C)]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| EQUI 34 | 20510    | Internal Inspections: The Permittee shall conduct internal inspections at intervals no greater than 10 years. The Permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary or secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items so that none of these conditions exist before refilling the storage vessel. [40 CFR 60.113b(a)(4), Minn. R. 7011.1520(C)]                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 34 | 20530    | Notification: The Permittee shall furnish the Commissioner with a report describing the internal floating roof and certifying that it meets the specifications of 40 CFR 60.112b(a)(1) and 40 CFR 60.113b(a)(1). The report shall be an attachment to the notification of actual date of initial startup required by 40 CFR 60.7(a)(3). [40 CFR 60.115b(a)(1), Minn. R. 7011.1520(C)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 34 | 20620    | The Permittee shall visually inspect the internal floating roof and the primary seal, or the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the commissioner in the inspection report required in 40 CFR 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(3)(ii), Minn. R. 7011.1520(C)] |
| EQUI 34 | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.7(a)(4);<br/> 40 CFR 60.7(b);<br/> 40 CFR 60.7(f); and<br/> 40 CFR 60.12.</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.1520(C), Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p>                                                                                                                                                                                                                                                                                     |

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| EQUI 35 | 20380    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. Kb as follows:</p> <p>40 CFR 60.110b(a);<br/> 40 CFR 60.111b;<br/> 40 CFR 60.112b(a);<br/> 40 CFR 60.112b(a)(1)(i);<br/> 40 CFR 60.112b(a)(1)(ii)(B);<br/> 40 CFR 60.112b(a)(1)(iii)-(ix);<br/> 40 CFR 60.113b(a)(1);<br/> 40 CFR 60.113b(a)(3)(ii);<br/> 40 CFR 60.113b(a)(4);<br/> 40 CFR 60.113b(a)(5);<br/> 40 CFR 60.115b(a)(1);<br/> 40 CFR 60.115b(a)(2);<br/> 40 CFR 60.115b(a)(4);<br/> 40 CFR 60.116b(a); and<br/> 40 CFR 60.116b(c).</p> <p>A copy of 40 CFR pt. 60, subp. Kb is included in Appendix G.</p> <p>If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.1520(C)]</p>                                                                      |
| EQUI 35 | 20510    | <p>Internal Inspections: The Permittee shall conduct internal inspections at intervals no greater than 10 years. The Permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary or secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items so that none of these conditions exist before refilling the storage vessel. [40 CFR 60.113b(a)(4), Minn. R. 7011.1520(C)]</p>                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 35 | 20530    | <p>Notification: The Permittee shall furnish the Commissioner with a report describing the internal floating roof and certifying that it meets the specifications of 40 CFR 60.112b(a)(1) and 40 CFR 60.113b(a)(1). The report shall be an attachment to the notification of actual date of initial startup required by 40 CFR 60.7(a)(3). [40 CFR 60.115b(a)(1), Minn. R. 7011.1520(C)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 35 | 20620    | <p>The Permittee shall visually inspect the internal floating roof and the primary seal, or the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the commissioner in the inspection report required in 40 CFR 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(3)(ii), Minn. R. 7011.1520(C)]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| EQUI 35 | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.7(a)(4);<br/> 40 CFR 60.7(b);<br/> 40 CFR 60.7(f); and<br/> 40 CFR 60.12.</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.1520(C), Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p>                                                                                                                                                                                                                       |
| EQUI 36 | 20380    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. Kb as follows:</p> <p>40 CFR 60.110b(a);<br/> 40 CFR 60.111b;<br/> 40 CFR 60.112b(a);<br/> 40 CFR 60.112b(a)(1)(i);<br/> 40 CFR 60.112b(a)(1)(ii)(B);<br/> 40 CFR 60.112b(a)(1)(iii)-(ix);<br/> 40 CFR 60.113b(a)(1);<br/> 40 CFR 60.113b(a)(3)(ii);<br/> 40 CFR 60.113b(a)(4);<br/> 40 CFR 60.113b(a)(5);<br/> 40 CFR 60.115b(a)(1);<br/> 40 CFR 60.115b(a)(2);<br/> 40 CFR 60.115b(a)(4);<br/> 40 CFR 60.116b(a); and<br/> 40 CFR 60.116b(c).</p> <p>A copy of 40 CFR pt. 60, subp. Kb is included in Appendix G.</p> <p>If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.1520(C)]</p> |
| EQUI 36 | 20510    | <p>Internal Inspections: The Permittee shall conduct internal inspections at intervals no greater than 10 years. The Permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary or secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items so that none of these conditions exist before refilling the storage vessel. [40 CFR 60.113b(a)(4), Minn. R. 7011.1520(C)]</p>                                                                                                                                                                                                                                                                             |
| EQUI 36 | 20530    | <p>Notification: The Permittee shall furnish the Commissioner with a report describing the internal floating roof and certifying that it meets the specifications of 40 CFR 60.112b(a)(1) and 40 CFR 60.113b(a)(1). The report shall be an attachment to the notification of actual date of initial startup required by 40 CFR 60.7(a)(3). [40 CFR 60.115b(a)(1), Minn. R. 7011.1520(C)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| EQUI 36 | 20620    | <p>The Permittee shall visually inspect the internal floating roof and the primary seal, or the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the commissioner in the inspection report required in 40 CFR 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(3)(ii), Minn. R. 7011.1520(C)]</p> |
| EQUI 36 | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.7(a)(4);<br/> 40 CFR 60.7(b);<br/> 40 CFR 60.7(f); and<br/> 40 CFR 60.12.</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.1520(C), Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p>                                                                                                                                                                                                                                                                                            |
| EQUI 37 | 20380    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. Kb as follows:</p> <p>40 CFR 60.110b(a);<br/> 40 CFR 60.111b;<br/> 40 CFR 60.112b(a);<br/> 40 CFR 60.112b(a)(1)(i);<br/> 40 CFR 60.112b(a)(1)(ii)(B);<br/> 40 CFR 60.112b(a)(1)(iii)-(ix);<br/> 40 CFR 60.113b(a)(1);<br/> 40 CFR 60.113b(a)(3)(ii);<br/> 40 CFR 60.113b(a)(4);<br/> 40 CFR 60.113b(a)(5);<br/> 40 CFR 60.115b(a)(1);<br/> 40 CFR 60.115b(a)(2);<br/> 40 CFR 60.115b(a)(4);<br/> 40 CFR 60.116b(a); and<br/> 40 CFR 60.116b(c).</p> <p>A copy of 40 CFR pt. 60, subp. Kb is included in Appendix G.</p> <p>If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.1520(C)]</p>                                                                      |
| EQUI 37 | 20510    | <p>Internal Inspections: The Permittee shall conduct internal inspections at intervals no greater than 10 years. The Permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary or secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items so that none of these conditions exist before refilling the storage vessel. [40 CFR 60.113b(a)(4), Minn. R. 7011.1520(C)]</p>                                                                                                                                                                                                                                                                                                                                                  |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| EQUI 37 | 20530    | Notification: The Permittee shall furnish the Commissioner with a report describing the internal floating roof and certifying that it meets the specifications of 40 CFR 60.112b(a)(1) and 40 CFR 60.113b(a)(1). The report shall be an attachment to the notification of actual date of initial startup required by 40 CFR 60.7(a)(3). [40 CFR 60.115b(a)(1), Minn. R. 7011.1520(C)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 37 | 20620    | The Permittee shall visually inspect the internal floating roof and the primary seal, or the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the commissioner in the inspection report required in 40 CFR 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(3)(ii), Minn. R. 7011.1520(C)] |
| EQUI 37 | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.7(a)(4);<br/> 40 CFR 60.7(b);<br/> 40 CFR 60.7(f); and<br/> 40 CFR 60.12.</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.1520(C), Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p>                                                                                                                                                                                                                                                                                     |
| EQUI 38 | 20380    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. Kb as follows:</p> <p>40 CFR 60.110b(a);<br/> 40 CFR 60.111b;<br/> 40 CFR 60.112b(a);<br/> 40 CFR 60.112b(a)(1)(i);<br/> 40 CFR 60.112b(a)(1)(ii)(B);<br/> 40 CFR 60.112b(a)(1)(iii)-(ix);<br/> 40 CFR 60.113b(a)(1);<br/> 40 CFR 60.113b(a)(3)(ii);<br/> 40 CFR 60.113b(a)(4);<br/> 40 CFR 60.113b(a)(5);<br/> 40 CFR 60.115b(a)(1);<br/> 40 CFR 60.115b(a)(2);<br/> 40 CFR 60.115b(a)(4);<br/> 40 CFR 60.116b(a);<br/> 40 CFR 60.116b(b); and<br/> 40 CFR 60.116b(c).</p> <p>A copy of 40 CFR pt. 60, subp. Kb is included in Appendix G.</p> <p>If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.1520(C)]</p>                                       |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| EQUI 38 | 20510    | Internal Inspections: The Permittee shall conduct internal inspections at intervals no greater than 10 years. The Permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary or secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items so that none of these conditions exist before refilling the storage vessel. [40 CFR 60.113b(a)(4), Minn. R. 7011.1520(C)]                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 38 | 20530    | Notification: The Permittee shall furnish the Commissioner with a report describing the internal floating roof and certifying that it meets the specifications of 40 CFR 60.112b(a)(1) and 40 CFR 60.113b(a)(1). The report shall be an attachment to the notification of actual date of initial startup required by 40 CFR 60.7(a)(3). [40 CFR 60.115b(a)(1), Minn. R. 7011.1520(C)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 38 | 20620    | The Permittee shall visually inspect the internal floating roof and the primary seal, or the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the commissioner in the inspection report required in 40 CFR 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(3)(ii), Minn. R. 7011.1520(C)] |
| EQUI 38 | 21450    | The Permittee shall equip the storage vessel (EQUI 38) with a floating roof, a vapor recovery system, or their equivalents. [Minn. R. 7011.1505, subp. 3(C)(1)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 38 | 21470    | Recordkeeping: The Permittee must maintain a file of each type of petroleum liquid stored, the typical Reid vapor pressure of each type of petroleum liquid stored as defined by Minn. R. 7011.1500, subp. 10, the dates of storage and withdrawals, and the date on which the storage vessel is empty. [Minn. R. 7011.1510, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EQUI 38 | 21480    | Monthly Calculations: By the 15th day of each month, the Permittee must determine and record for the storage vessel (EQUI 38):<br>-the average storage temperature for the previous calendar month according to Minn. R. 7011.1510, subp. 2; and<br>-the true vapor pressure of the petroleum liquid stored at such temperature according to Minn. R. 7011.1510,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 38 | 35700    | The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:<br><br>40 CFR 60.7(a)(4);<br>40 CFR 60.7(b);<br>40 CFR 60.7(f); and<br>40 CFR 60.12.<br><br>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. Kb, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.1520(C), Minn. R. 7017.1010 & 7017.2015, subp. 2, Minn. R. 7019.0100]                                                                                                                                                                                                                                                                                                      |
| EQUI 61 | 1        | Emergency Bypass Use: The Permittee may bypass TREA 14 (RTO) when the DDGS dryers are in operation only when plant or worker safety would be in jeopardy without the use of the bypass. Each period of bypass use, while the DDGS dryers are operated, shall be recorded in the daily operating record. The record shall include the date, start time of use, duration of use, and the facility operating conditions during its use. For periods of bypass use while the DDGS dryers are operated and the facility does not follow the SSM procedures, the Permittee shall conduct a root-cause failure analysis of the event and submit a report of the analysis to the Commissioner within 15 days.<br><br>The emissions emitted during a bypass event shall be considered uncontrolled and shall be reported as a deviation. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                  |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| EQUI 61  | 2        | Thermal Oxidizer Burnouts and Other Maintenance Activities: During thermal oxidizer malfunctions and any other maintenance for which the manufacturer recommends dryer emissions bypass the thermal oxidizer, the dryer shall be shutdown. Wet DDGS shall be stored and handled to minimize VOC emissions and odors during these maintenance activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|          |          | The Permittee shall maintain a record of such maintenance activities in the O & M plan for TREA 14. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 16(J)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 61  | 3        | Thermal Oxidizer Breakdown: In the event of a breakdown of the thermal oxidizer, the Permittee shall stop feed into the dryer as soon as the breakdown is discovered. Dryer operation may continue as long as necessary to empty the dryer. The Permittee shall also submit the notification required by Minn. R. 7019.1000, subp. 2, if required. [Minn. R. 7007.0800, subp. 2(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 67  | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 67  | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 67  | 19650    | The Permittee must vent emissions from EQUI 67 to control equipment meeting the requirements of TREA 6 whenever EQUI 67 operates. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 71  | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 71  | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 71  | 19650    | The Permittee must vent emissions from EQUI 71 to control equipment meeting the requirements of TREA 6 whenever EQUI 71 operates. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 177 | 3350     | The Permittee must clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (reasonably available control technology). [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.1005, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EQUI 177 | 3390     | Opacity <= 5 percent opacity from truck unloading stations, railcar unloading stations, railcar loading stations, and handling operation fugitive emissions. [Minn. R. 7011.1005, subp. 3(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| EQUI 177 | 3391     | Visible Emissions: The Permittee shall conduct visible emissions (VE) readings at the overhead DDGS building door at least once each day of operation while DDGS is being handled and loaded into a truck. The visible emissions check must be conducted from a location perpendicular to the plume and at least 15 feet away during daylight hours. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions must be recorded. If after one year of VE readings no visible emissions are recorded, the Permittee may reduce the frequency to once each week of operation while DDGS is being loaded into a truck.                                                                                                                                                                                                                                                                                                                                              |
|          |          | <p>If the VE readings are conducted by a certified opacity reader, the Permittee has the option of immediately determining the opacity from the emissions source using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations found in Appendix H of this permit. If the opacity results are less than the permit requirement, the Permittee is not required to take further corrective actions, nor report a deviation. If any corrective actions are to be reversed subsequent to the opacity readings (such as opening a door), a subsequent VE reading shall be conducted to verify that no visible emissions are present. The Permittee shall maintain records of all observations.</p> <p>As an alternative to conducting the initial VE readings, the Permittee may determine initial compliance with the opacity limits using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations found in Appendix H of this permit using a certified observer. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A)]</p> |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| EQUI 177 | 3392     | Corrective Actions: If visible emissions are observed, the Permittee must take corrective actions to eliminate visible emissions as soon as possible, unless the Permittee determines that the opacity is less than the permit requirement using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations. Corrective actions should include, but are not limited to, O&M and best management practices outlined in the Fugitive Emission Control Plan (FECp) for the operations. Corrective actions shall return the affected facility operation to a condition where there are no visible emissions. [Minn. R. 7007.0800, subp. 2(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EQUI 177 | 3393     | Recordkeeping of Visible Emissions. The Permittee shall record the time and date of each visible emission check, the name and location of the observer, whether or not any visible emissions were observed, and a description of the corrective actions taken if visible emissions were observed. If visible emissions are identified, the observer should note which equipment was in operation, which equipment or activity was the likely source of the visible emission and weather conditions, such as wind direction and estimated speed. If the Permittee determines that the opacity results are less than the permit requirement using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations, the Permittee is not required to take corrective actions, nor report a deviation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| EQUI 177 | 3394     | The Permittee must limit the hours of DDGS loadout operations each day to the hours of 5AM to 7PM. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EQUI 179 | 3350     | The Permittee must clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (reasonably available control technology). [Minn. R. 7011.1005, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 179 | 3400     | Opacity <= 10 percent opacity from truck loading stations fugitive emissions. [Minn. R. 7011.1005, subp. 3(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EQUI 179 | 3402     | <p>Visible Emissions: The Permittee shall conduct visible emissions (VE) readings at the overhead DDGS building door at least once each day of operation while DDGS is being loaded into a truck or into a container. The visible emissions check must be conducted from a location perpendicular to the plume and at least 15 feet away during daylight hours. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions must be recorded. If after one year of VE readings no visible emissions are recorded, the Permittee may reduce the frequency to once each week of operation while DDGS is being loaded into a truck or a container.</p> <p>If the VE readings are conducted by a certified opacity reader, the Permittee has the option of immediately determining the opacity from the emissions source using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations found in Appendix H of this permit. If the opacity results are less than the permit requirement, the Permittee is not required to take further corrective actions, nor report a deviation. If any corrective actions are to be reversed subsequent to the opacity readings (such as opening a door), a subsequent VE reading shall be conducted to verify that no visible emissions are present. The Permittee shall maintain records of all observations.</p> <p>As an alternative to conducting the initial VE readings, the Permittee may determine initial compliance with the opacity limits using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations found in Appendix H of this permit using a certified observer. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A)]</p> |
| EQUI 179 | 3403     | Corrective Actions: If visible emissions are observed, the Permittee must take corrective actions to eliminate visible emissions as soon as possible, unless the Permittee determines that the opacity is less than the permit requirement using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations. Corrective actions should include, but are not limited to, O&M and best management practices outlined in the Fugitive Emission Control Plan (FECp) for the operations. Corrective actions shall return the affected facility operation to a condition where there are no visible emissions. [Minn. R. 7007.0800, subp. 2(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| EQUI 179 | 3404     | Recordkeeping of Visible Emissions. The Permittee shall record the time and date of each visible emission check, the name and location of the observer, whether or not any visible emissions were observed, and a description of the corrective actions taken if visible emissions were observed. If visible emissions are identified, the observer should note which equipment was in operation, which equipment or activity was the likely source of the visible emission and weather conditions, such as wind direction and estimated speed. If the Permittee determines that the opacity results are less than the permit requirement using the Alternative Test Method for Opacity Determination for Intermittent Dust Generating Operations, the Permittee is not required to take corrective actions, nor report a deviation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subps. 4-5] |
| EQUI 179 | 3405     | The Permittee must limit the hours of DDGS loadout operations each day to the hours of 5AM to 7PM. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EQUI 195 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 195 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EQUI 196 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 196 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EQUI 197 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 197 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EQUI 199 | 3390     | Opacity <= 5 percent opacity from truck unloading stations, railcar unloading stations, railcar loading stations, and handling operation fugitive emissions. [Minn. R. 7011.1005, subp. 3(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 200 | 3390     | Opacity <= 5 percent opacity from truck unloading stations, railcar unloading stations, railcar loading stations, and handling operation fugitive emissions. [Minn. R. 7011.1005, subp. 3(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 201 | 3390     | Opacity <= 5 percent opacity from truck unloading stations, railcar unloading stations, railcar loading stations, and handling operation fugitive emissions. [Minn. R. 7011.1005, subp. 3(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 201 | 3391     | The Permittee must limit the hours of DDGS loadout operations each day to the hours of 5AM to 7PM. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EQUI 201 | 3392     | Hours of Operation: Daily Recordkeeping: On each day of operation, the Permittee must record the time that the first and last DDGS truck is received at the facility. This shall be based on written records or receipts. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 202 | 3400     | Opacity <= 10 percent opacity from truck loading stations fugitive emissions. [Minn. R. 7011.1005, subp. 3(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 202 | 3401     | The Permittee must limit the hours of DDGS loadout operations each day to the hours of 5AM to 7PM. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EQUI 202 | 3402     | Hours of Operation: Daily Recordkeeping: On each day of operation, the Permittee must record the time that the first and last DDGS truck is received at the facility. This shall be based on written records or receipts. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 204 | 1        | The Permittee must vent emissions from any emission unit that vents to STRU 43 to a fabric filter that meets the requirements of EQUI 204 whenever any emission unit that vents to STRU 43 operates, and must operate and maintain a fabric filter that meets the requirements of EQUI 204 at all times that any emissions vent to it. The Permittee must document periods of non-operation of the fabric filter. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                   |
| EQUI 204 | 2        | The Permittee must limit emissions of Particulate Matter <= 0.140 pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| EQUI 204 | 3        | The Permittee shall operate and maintain any fabric filter that meets the requirements of EQUI 204 such that it achieves an outlet concentration rate for Particulate Matter <= 0.0040 grains per dry standard cubic foot. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| EQUI 204 | 4        | The Permittee must limit emissions of PM < 10 micron $\leq$ 0.140 pounds per hour 3-hour average. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 204 | 5        | The Permittee shall operate and maintain any fabric filter that meets the requirements of EQUI 204 such that it achieves an outlet concentration rate for PM < 10 micron $\leq$ 0.0040 grains per dry standard cubic foot. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 204 | 6        | The Permittee must limit emissions of PM < 2.5 micron $\leq$ 0.140 pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EQUI 204 | 7        | The Permittee shall operate and maintain any fabric filter that meets the requirements of EQUI 204 such that it achieves an outlet concentration rate for PM < 2.5 micron $\leq$ 0.0040 grains per dry standard cubic foot. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EQUI 204 | 3090     | The Permittee is authorized to construct and operate EQUI 204 meeting the following design requirements: a flour receiver with a maximum capacity of 96.00 tons grain per hour.<br><br>The authorization to construct expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The units must meet all applicable permit requirements. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 204 | 3100     | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EQUI 204 | 3110     | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EQUI 204 | 3680     | Opacity $\leq$ 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 204 | 3690     | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 204 | 3691     | Monitoring and Recordkeeping Requirement for Short-Term Throughput Limit:<br>The Permittee must monitor, record and maintain the following flow and density measurements, as needed to show compliance with a 3-hour block average, for use in calculating the combined flour throughput limit above:<br>1. Pre-blend density measurements (D1) – either with the in-line density meter from the pre-blend tank to the slurry tank or a laboratory sample as described below.<br>2. Slurry density measurements (D4) – either with an in-line slurry density meter leaving the slurry tank or laboratory sample as described below.<br>3. Pre-Blend flow (V1) as measured by flow meter from Pre-Blend Tank to Slurry Tank<br>4. City Water (Process water) flow (V2) as measured by flow meter from Process Water Tank to Slurry Tank<br>5. Scrubber Water Flow (V3) as measured by flow meter from scrubbers to slurry tank. and<br>6. Slurry Flow (V4) as measured by flow meters from slurry tank to fermentation tanks. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| EQUI 204 | 3692     | <p>Calculation Method for Combined Hammermill Short-term Process Throughput Rate in tons/hour (Step 1 of 2)</p> <p>Step 1: Determine the Mass flow rate of the water sources (WSx) entering the slurry tank and the water to flour mix (W/F or mash) leaving the slurry tank using density measurements and volumetric flow readings and Equation 1 below.</p> <p>Equation 1: Mass Flow Rate (lb/min) = Density (lb/gal) x Volumetric Flow Rate (gal/min)</p> <p>WS1 = D1 x V1<br/> WS2 = D2 x V2<br/> WS3 = D3 x V3<br/> W/F = D4 X V4</p> <p>Where:</p> <p>WS1 = Water Source 1 (Pre-blend water) mass flow rate (lb/min)<br/> WS2 = Water Source 2 (City water makeup) mass flow rate (lb/min)<br/> WS3 = Water Source 3 (Water from scrubbers) mass flow rate (lb/min)<br/> W/F = Mass of Water/Flour Mix (lb/min)<br/> D1 = Density (lb/gal) of WS1 as measured by pre-blend water density measurements (either density meter or samples) from pre-blend tank to slurry tank.<br/> D2 = Density (lb/gal) of WS2 = 8.33 lb/gal (constant)<br/> D3 = Density (lb/gal) of WS3 = 8.33 lb/gal (constant)<br/> D4 = Density (lb/gal) of W/F as measured by slurry density measurements (either density meter or samples) leaving the slurry tank<br/> V1 = Volumetric Flow rate of WS1 (gal/min) as measured by flow meter from Process Water Tank to Slurry Tank<br/> V2 = Volumetric Flow rate of WS2 (gal/min) as measured by flow meter from Process Water Tank to Slurry Tank<br/> V3 = Volumetric Flow rate of WS3 (gal/min) as measured by flow meter from scrubbers to slurry tank<br/> V4 = Volumetric Flow rate of W/F (gal/min) as measured by flow meter leaving the slurry tank. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| EQUI 204 | 3693     | <p>Calculation Method for Combined Hammermill Short-term Process Throughput Rate in tons/hour (Step 2 of 2)</p> <p>Step 2: Determine mass of flour using results of Equation 1 in Equation 2, and converting from lb/min to ton/hour</p> <p>Equation 2: Mass of Flour (ton/hour) = (W/F – (WS1+WS2+WS3)) x 60 min/hour / 2000 lbs/ton. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 204 | 3694     | <p>Slurry Density (W/F) Based on Sampling. The Permittee may collect slurry samples leaving the slurry tank during any 3-hour period in lieu of relying upon the data from the slurry density meter. The Permittee shall determine the density in the on-site laboratory. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EQUI 204 | 3695     | <p>Pre-Blend Water Density (D1) Based on Sampling. The Permittee may collect pre-blend water samples leaving the pre-blend tank during any 3-hour period in lieu of relying upon the data from the pre-blend water density meter. The Permittee shall determine the density in the on-site laboratory. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| EQUI 204 | 3696     | <p>The Permittee must limit Combined Hammermill Short-Term Process Throughput <math>\leq</math> 81.7 tons per hour 3-hour average of combined flour throughput based on slurry density measurements (D4), volumetric flow meters (V1-V3, W/F), and pre-blend density measurements (D1) to be used in the calculations as detailed below, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 as detailed in the Protocol for Resetting Short-Term Process Throughput Limits.</p> <p>The Permittee must maintain at the facility adequate volumetric flow monitoring records and density measurements to demonstrate continuous compliance with these operating condition limitations. The facility must use a continuous hard-copy recorder or data acquisition system to take and record readings to comply with the process throughput limits as a 3-hour average. Any data acquisition system must be equipped with a computer historian, and be capable of providing the necessary records for calculating the required 3-hour averages. Missed readings and recorded values outside the range specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a, and must be reported. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                     |
|          |          | <p>Protocol for Resetting the Short-Term Process Throughput Limits:</p> <p>The Permittee shall conduct performance testing to measure PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |



| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|          |          | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at EQUI 204.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2017, Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2]</p> |
| EQUI 204 | 3698     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 204 | 3699     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EQUI 204 | 3700     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 204 | 3703     | <p>Performance Testing Recordkeeping: During each performance test the Permittee must record and maintain, at a minimum, the process and control parameters. These records must be included with the performance test results and submitted to the Commissioner with the performance test report. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7017.2020, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 204 | 3704     | <p>The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O&amp;M) Plan. The Permittee shall keep copies of the O&amp;M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EQUI 204 | 3705     | <p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions are observed;</li> <li>- the recorded pressure drop is outside the required operating range; or</li> <li>- the fabric filter or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EQUI 204 | 3706     | <p>Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [Minn. R. 7007.0800, subp. 4]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| EQUI 204 | 3707     | Periodic Inspections: At least once per calendar quarter, or more frequently if required by the manufacturer recommendations, the Permittee shall inspect the fabric filter external components. If inspection frequency is based upon manufacturer's specifications, then manufacturer specifications supporting the frequency must be included in the Operation and Maintenance plan. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                         |
| EQUI 204 | 3708     | Annual Inspections: At least once per calendar year, or more frequently if required by the manufacturer recommendations, the Permittee shall inspect the internal fabric filter components not covered by the quarterly inspections. This includes, but is not limited to, components that are not subject to wear or plugging including structural components, housings, and hoods. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                            |
| EQUI 204 | 3709     | Annual Calibration: The Permittee shall calibrate the pressure drop gauge, or replace with a calibrated gauge, at least once every 12 months or more often if required by manufacturer's specifications and maintain a written record of the calibration and any action resulting from the calibration or replacement. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 5]                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EQUI 204 | 3710     | If the Permittee replaces or modifies a fabric filter that meets the requirements of EQUI 204, such fabric filter is subject to all requirements of EQUI 204 as well as all other requirements of TFAC 1. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EQUI 204 | 3711     | <p>Prior to replacing the fabric filter, the Permittee must apply for and obtain the appropriate permit amendment, as applicable. It is possible that the change may trigger a Title I modification, or another type of modification under state rules. The Permittee must complete the calculations and analysis as described in Minn. R. 7007.1200, subp. 2 and subp. 3 for any change.</p> <p>A permit amendment is needed regardless of the emissions increase if the change will be subject to a new applicable requirement or requires revisions to the limits or monitoring and recordkeeping in this permit. [Minn. R. 7007.0800, subp. 2(A)]</p>                                                                                                                                                                                      |
| EQUI 204 | 3712     | Pressure Drop $\geq 0.05$ and $\leq 6.0$ inches of water column whenever emissions are venting to the fabric filter, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the follow up compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop reading is once again within the required range. [Minn. R. 7007.0800, subp. 14, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| EQUI 204 | 3713     | Daily Pressure Drop: Once each day of operation, the Permittee shall read the pressure drop across the fabric filter. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EQUI 204 | 3714     | Recordkeeping of Pressure Drop: The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R.                                                                                                                                                                                                                                                                                                                                                                                       |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| EQUI 204 | 20020    | <p>PM &lt; 10 micron: The Permittee shall conduct a performance test due 180 days after startup of EQUI 204 and every 60 months thereafter to measure emissions.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 204.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| EQUI 204 | 20030    | <p>PM &lt; 2.5 micron: The Permittee shall conduct a performance test due 180 days after startup of EQUI 204 and every 60 months thereafter to measure emissions.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 204.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                         |
| EQUI 204 | 20040    | <p>Particulate Matter: The Permittee shall conduct a performance test due 180 days after startup of EQUI 204 and every 60 months thereafter to measure emissions.</p> <p>The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 204.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.</p> <p>Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                            |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| EQUI 205 | 3090     | The Permittee is authorized to construct and operate EQUI 205, meeting the following design requirements: fermentation equipment with a capacity of 270,000 gallons of beer per hour.                                                                                                                                                                                                                                                                                                                               |
|          |          | The authorization to start construction of this equipment expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The unit must meet all applicable permit requirements. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                |
| EQUI 205 | 3100     | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.                                                                                                                                                                                                                                                                                |
|          |          | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 205 | 3110     | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.                                                                                                                                                                                                                                                   |
|          |          | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 206 | 3090     | The Permittee is authorized to construct and operate EQUI 206, meeting the following design requirements: fermentation equipment with a capacity of 270,000 gallons of beer per hour.                                                                                                                                                                                                                                                                                                                               |
|          |          | The authorization to start construction of this equipment expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The unit must meet all applicable permit requirements. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                |
| EQUI 206 | 3100     | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.                                                                                                                                                                                                                                                                                |
|          |          | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 206 | 3110     | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.                                                                                                                                                                                                                                                   |
|          |          | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 211 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 211 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                               |
| EQUI 212 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EQUI 212 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                               |
| EQUI 213 | 1        | The Permittee must remove EQUI 213 before initial startup of EQUI 204. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                   |
| EQUI 213 | 2        | The Permittee must vent emissions from any emission unit that vents to STRU 18 to EQUI 213 whenever any emission unit that vents to STRU 18 operates, and must operate and maintain EQUI 213 at all times that any emissions vent to it. The Permittee must document periods of non-operation of the fabric filter. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| EQUI 213 | 3        | The Permittee must limit emissions of Particulate Matter <= 0.140 pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                        |
| EQUI 213 | 4        | The Permittee shall operate and maintain EQUI 213 such that it achieves an outlet concentration rate for Particulate Matter <= 0.0040 grains per dry standard cubic foot. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                |
| EQUI 213 | 5        | The Permittee must limit emissions of PM < 10 micron <= 0.140 pounds per hour 3-hour average. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                       |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| EQUI 213 | 6        | The Permittee shall operate and maintain EQUI 213 such that it achieves an outlet concentration rate for PM < 10 micron <= 0.0040 grains per dry standard cubic foot. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 213 | 7        | The Permittee must limit emissions of PM < 2.5 micron <= 0.140 pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 213 | 8        | The Permittee shall operate and maintain EQUI 213 such that it achieves an outlet concentration rate for PM < 2.5 micron <= 0.0040 grains per dry standard cubic foot. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EQUI 213 | 3080     | The Permittee shall submit a notification of equipment removal/dismantlement: Due 15 calendar days after Equipment Removal and/or Dismantlement Date. This notification shall specify which Subject Items (by ID#) were removed and on what date. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EQUI 213 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 213 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 213 | 3691     | The Permittee must limit Short-Term Process Throughput <= 81.7 tons per hour 3-hour average combined flour throughput based on slurry density measurements (D4), volumetric flow meters (V1-V3, W/F), pre-blend density measurements (D1) to be used in the calculations as detailed below, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 as detailed in the Protocol for Resetting Short-Term Process Throughput Limits. The Permittee must maintain at the facility adequate volumetric flow monitoring records and density measurements to demonstrate continuous compliance with these operating condition limitations. The facility must use a continuous hard-copy recorder or data acquisition system to take and record readings to comply with the process throughput limits as a 3-hour average. Any data acquisition system must be equipped with a computer historian, and be capable of providing the necessary records for calculating the required 3-hour averages. Missed readings and recorded values outside the range specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a, and must be reported. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                              |
| EQUI 213 | 3692     | <p>Protocol for Resetting the Short-Term Process Throughput Limits:</p> <p>The Permittee shall conduct performance testing to measure PM, PM10 and PM2.5 emission rates as required elsewhere in this permit. If the established Process Throughput Limit is to be reset, the reset shall be based on the actual conditions (process throughput and control equipment operating parameters) recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>To reset the limit higher than the Short-Term Process Throughput Limit in this permit, the Permittee must follow the requirements of the Procedure to Increase Short-Term Process Throughput Limit and apply for and obtain a major permit amendment incorporating the change. If performance testing results in a reset of the limit lower than the permit limit, the Permittee must comply with the more stringent limit upon receipt of the follow up compliance letter.</p> <p>During the performance test, the Permittee must continuously monitor the process throughput. The Permittee shall calculate the average process throughput based on the average exhibited over all three test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>Ongoing compliance with the Short-Term Process Throughput Limit will be determined using the same format as was used during the performance test. [Minn. R. 7017.2025, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| EQUI 213 | 3693     | <p>Procedure to Increase the Short-Term Process Throughput Limit:</p> <p>The Permittee may increase the Short-Term Process Throughput Limit and reset control equipment operating parameters by conducting a performance test at an operating rate that exceeds the permitted Short-Term Process Throughput Limit and meeting requirements 1 through 5 below.</p> <ol style="list-style-type: none"> <li>1. Performance Test Notification (written): due 30 to 90 days before performance test at an increased Short-Term Process Throughput rate. In the notification, the Permittee shall identify the date on which they wish to be authorized to exceed the process throughput limit, if prior to the test date.</li> <li>2. The Permittee may exceed the existing Short-Term Process Throughput Limit upon MPCA receipt of the notification of a performance test at a higher process throughput. This authorization to exceed the Short-Term Process Throughput Limit is only valid during the performance test and time periods authorized in the test plan approval letter.</li> <li>3. The control equipment operating parameters will be reset through receipt of a follow up compliance letter to the actual conditions of the performance test as detailed in permit requirements at EQUI 213.</li> <li>4. To increase the Short-Term Process Throughput Limit in this permit, the Permittee must apply for and obtain a major permit amendment incorporating the change.</li> <li>5. The Permittee must conduct the performance test on the date specified in the Performance Test Notification. If the test is not conducted within 90 days of test notification, the emissions exceeding the existing Short-Term Process Throughput Limit during the higher process throughput time period must be reported as a deviation.</li> </ol> <p>The Permittee shall follow TFAC requirements for other required performance testing notifications and submittals. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7017.2017, Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2]</p> |
| EQUI 213 | 3694     | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Resetting the Short-Term Process Throughput Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EQUI 213 | 3695     | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 213 | 3698     | <p>Monitoring and Recordkeeping Requirement for Short-Term Throughput Limit:</p> <p>The Permittee must monitor, record and maintain the following flow and density measurements, as needed to show compliance with a 3-hour block average, for use in calculating the combined flour throughput limit above:</p> <ol style="list-style-type: none"> <li>1. Pre-blend density measurements (D1) – either with the in-line density meter from the pre-blend tank to the slurry tank or a laboratory sample as described below.</li> <li>2. Slurry density measurements (D4) – either with an in-line slurry density meter leaving the slurry tank or laboratory sample as described below.</li> <li>3. Pre-Blend flow (V1) as measured by flow meter from Pre-Blend Tank to Slurry Tank</li> <li>4. City Water (Process water) flow (V2) as measured by flow meter from Process Water Tank to Slurry Tank</li> <li>5. Scrubber Water Flow (V3) as measured by flow meter from scrubbers to slurry tank. and</li> <li>6. Slurry Flow (V4) as measured by flow meters from slurry tank to fermentation tanks. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| EQUI 213 | 3699     | <p>Calculation Method for Combined Hammermill Short-term Process Throughput Rate in tons/hour (Step 1 of 2)</p> <p>Step 1: Determine the Mass flow rate of the water sources (WSx) entering the slurry tank and the water to flour mix (W/F or mash) leaving the slurry tank using density measurements and volumetric flow readings and Equation 1 below.</p> <p>Equation 1: Mass Flow Rate (lb/min) = Density (lb/gal) x Volumetric Flow Rate (gal/min)</p> <p>WS1 = D1 x V1<br/> WS2 = D2 x V2<br/> WS3 = D3 x V3<br/> W/F = D4 x V4</p> <p>Where:</p> <p>WS1 = Water Source 1 (Pre-blend water) mass flow rate (lb/min)<br/> WS2 = Water Source 2 (City water makeup) mass flow rate (lb/min)<br/> WS3 = Water Source 3 (Water from scrubbers) mass flow rate (lb/min)<br/> W/F = Mass of Water/Flour Mix (lb/min)<br/> D1 = Density (lb/gal) of WS1 as measured by pre-blend water density measurements (either density meter or samples) from pre-blend tank to slurry tank.<br/> D2 = Density (lb/gal) of WS2 = 8.33 lb/gal (constant)<br/> D3 = Density (lb/gal) of WS3 = 8.33 lb/gal (constant)<br/> D4 = Density (lb/gal) of W/F as measured by slurry density measurements (either density meter or samples) leaving the slurry tank<br/> V1 = Volumetric Flow rate of WS1 (gal/min) as measured by flow meter from Process Water Tank to Slurry Tank<br/> V2 = Volumetric Flow rate of WS2 (gal/min) as measured by flow meter from Process Water Tank to Slurry Tank<br/> V3 = Volumetric Flow rate of WS3 (gal/min) as measured by flow meter from scrubbers to slurry tank<br/> V4 = Volumetric Flow rate of W/F (gal/min) as measured by flow meter leaving the slurry tank. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| EQUI 213 | 3700     | <p>Calculation Method for Combined Hammermill Short-term Process Throughput Rate in tons/hour (Step 2 of 2)</p> <p>Step 2: Determine mass of flour using results of Equation 1 in Equation 2, and converting from lb/min to ton/hour</p> <p>Equation 2: Mass of Flour (ton/hour) = (W/F – (WS1+WS2+WS3)) x 60 min/hour / 2000 lbs/ton. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 213 | 3701     | <p>Slurry Density (W/F) Based on Sampling. The Permittee may collect slurry samples leaving the slurry tank during any 3-hour period in lieu of relying upon the data from the slurry density meter. The Permittee shall determine the density in the on-site laboratory. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EQUI 213 | 3702     | <p>Pre-Blend Water Density (D1) Based on Sampling. The Permittee may collect pre-blend water samples leaving the pre-blend tank during any 3-hour period in lieu of relying upon the data from the pre-blend water density meter. The Permittee shall determine the density in the on-site laboratory. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2025, subp. 3, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 213 | 3703     | <p>Performance Testing Recordkeeping: During each performance test the Permittee must record and maintain, at a minimum, the process and control parameters. These records must be included with the performance test results and submitted to the Commissioner with the performance test report. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7017.2020, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EQUI 213 | 3704     | <p>The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O&amp;M) Plan. The Permittee shall keep copies of the O&amp;M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| EQUI 213 | 3705     | <p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions are observed;</li> <li>- the recorded pressure drop is outside the required operating range; or</li> <li>- the fabric filter or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]</p> |
| EQUI 213 | 3706     | <p>Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [Minn. R. 7007.0800, subp. 4]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EQUI 213 | 3707     | <p>Periodic Inspections: At least once per calendar quarter, or more frequently if required by the manufacturer recommendations, the Permittee shall inspect the fabric filter external components. If inspection frequency is based upon manufacturer's specifications, then manufacturer specifications supporting the frequency must be included in the Operation and Maintenance plan. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                    |
| EQUI 213 | 3708     | <p>Annual Inspections: At least once per calendar year, or more frequently if required by the manufacturer recommendations, the Permittee shall inspect the internal fabric filter components not covered by the quarterly inspections. This includes, but is not limited to, components that are not subject to wear or plugging including structural components, housings, and hoods. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                       |
| EQUI 213 | 3709     | <p>Annual Calibration: The Permittee shall calibrate the pressure drop gauge, or replace with a calibrated gauge, at least once every 12 months or more often if required by manufacturer's specifications and maintain a written record of the calibration and any action resulting from the calibration or replacement. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 5]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| EQUI 213 | 3710     | <p>Pressure Drop <math>\geq 0.05</math> and <math>\leq 6.0</math> inches of water column whenever emissions are venting to the fabric filter, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the follow up compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop reading is once again within the required range. [Minn. R. 7007.0800, subp. 14, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                      |
| EQUI 213 | 3711     | <p>Daily Pressure Drop: Once each day of operation, the Permittee shall read the pressure drop across the fabric filter. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EQUI 213 | 3712     | <p>Recordkeeping of Pressure Drop: The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered deviations as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                       |



| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| EQUI 213 | 20020    | PM < 10 micron: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|          |          | The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 213. |
|          |          | Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 213 | 20030    | Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7017.2020, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                       |
|          |          | PM < 2.5 micron: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|          |          | The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 201A and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 213. |
| EQUI 213 | 20040    | Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|          |          | Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                            |
|          |          | Particulate Matter: The Permittee shall conduct a performance test due before 5/9/2029 and every 60 months thereafter to measure emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 214 | 3680     | The first test is due by the date specified above and all subsequent tests shall be completed every 60 months thereafter by the due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions defined at Minn. R. 7017.2005, subp. 8 or at the operating conditions described at Minn. R. 7017.2025, subp. 2, using EPA Reference Methods 5 and 202, or other method approved by MPCA in the performance test plan approval. This permit contains Short-Term Process Throughput limits. Short-Term Process Throughput limits will be reset according to the Protocol for Resetting Short-Term Process Throughput Limits at EQUI 213.    |
|          |          | Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a follow up compliance letter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|          |          | Testing conducted more than 60 days prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                            |
| EQUI 214 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| EQUI 214 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 215 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 215 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 216 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 216 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 218 | 1410     | Best Management Practices for Internal Combustion Engines (ICE)<br>1. The Permittee must only use diesel fuel with a sulfur content of less than or equal to 15 ppm or natural gas in the emergency engines.<br>2. The Permittee may not install a rain cap on the emergency engine stack.<br>3. The Permittee must make the test runs for each engine as short as allowed by insurance and building code considerations.<br>4. The testing for an emergency engine shall not occur while another emergency engine is being tested.<br>5. No testing shall be conducted on a day the Air Quality Index (AQI) or the forecasted AQI (found on the MPCA website) exceeds 90, unless the test cannot be deferred. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)] |
| EQUI 218 | 1420     | Permittee must record the following information for each test of each engine:<br>1. The unit that was tested;<br>2. The date;<br>3. The time the test started;<br>4. The time the test was completed; and<br>5. The Air Quality Index (AQI) at the time the test began. If testing was conducted on a day with the AQI above 90, document the reason it was not possible to defer the test. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                                                                                                                                                                                    |
| EQUI 218 | 3090     | The Permittee is authorized to construct and operate EQUI 218 meeting the following design requirements: a diesel emergency engine with a maximum power of 2,250 kW.<br><br>The authorization to construct expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The unit must meet all applicable permit requirements. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 218 | 3100     | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 218 | 3110     | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 218 | 19530    | EQUI 218 is a new affected source as defined under 40 CFR pt. 63, subp. ZZZZ, and the facility is an area source as defined at 40 CFR 63.2. The Permittee shall meet the requirements of 40 CFR pt. 63, subp. ZZZZ by meeting the requirements of 40 CFR pt. 60, subp. IIII. No further requirements of 40 CFR pt. 63, subp. ZZZZ apply to EQUI 218. [40 CFR 63.6590(c), Minn. R. 7011.8150]                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 218 | 28100    | The Permittee must limit emissions of NMHC+NOx <= 6.4 grams per kilowatt-hour as described in 40 CFR pt. 1039, Appendix I. [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 218 | 28110    | The Permittee must limit emissions of Particulate Matter <= 0.20 grams per kilowatt-hour as described in 40 CFR pt. 1039, Appendix I. [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| EQUI 218 | 28120    | The Permittee must limit emissions of Carbon Monoxide $\leq$ 3.5 grams per kilowatt-hour as described in 40 CFR pt. 1039, Appendix I. [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EQUI 218 | 28130    | The Permittee must limit emissions of Opacity $\leq$ 20 percent opacity during the acceleration mode. [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EQUI 218 | 28140    | The Permittee must limit emissions of Opacity $\leq$ 15 percent opacity during the lugging mode. [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 218 | 28150    | The Permittee must limit emissions of Opacity $\leq$ 50 percent opacity during the peaks in either the acceleration or lugging modes. [40 CFR 60.4202(b)(2), 40 CFR 60.4205(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EQUI 218 | 28160    | The Permittee must limit Sulfur Content of Fuel $\leq$ 15.0 parts per million and either a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume, as required by 40 CFR 1090.305. [40 CFR 60.4207(b), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EQUI 218 | 35680    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. IIII as follows:</p> <p>40 CFR 60.4200(a)(2)(i);<br/> 40 CFR 60.4202(b)(2);<br/> 40 CFR 60.4205(b);<br/> 40 CFR 60.4206;<br/> 40 CFR 60.4207(b);<br/> 40 CFR 60.4208(a);<br/> 40 CFR 60.4209(a);<br/> 40 CFR 60.4211(a);<br/> 40 CFR 60.4211(c);<br/> 40 CFR 60.4211(f)(1);<br/> 40 CFR 60.4211(f)(2)(i);<br/> 40 CFR 60.4211(f)(3);<br/> 40 CFR 60.4214(b);<br/> 40 CFR 60.4214(d);<br/> 40 CFR 60.4214(g)-(j);<br/> 40 CFR 60.4218;<br/> 40 CFR 60.4219; and<br/> 40 CFR pt. 60, subp. IIII, Table 8.</p> <p>A copy of 40 CFR pt. 60, subp. IIII is included in Appendix D.</p> <p>If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR 63.6590(c), 40 CFR pt. 60, subp. IIII, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.2305, Minn. R. 7011.8150]</p> |
| EQUI 218 | 35685    | If the emergency stationary engine operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), the Permittee must submit an annual report for each calendar year no later than March 31 of the following calendar year. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emission Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ( <a href="https://cdx.epa.gov/">https://cdx.epa.gov/</a> ). However, if the reporting form not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 60.4 and emailed to the MPCA as directed in Section 2 of this permit for other compliance submittals. Beginning on February 26, 2025, submit the annual report electronically according to 40 CFR 60.4214(g). [40 CFR 60.4214(d), 40 CFR 60.4214(g), 40 CFR 63.6590(c), Minn. R. 7011.2305, Minn. R. 7011.8150]                                                                                                                                       |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| EQUI 218 | 35700    | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.1;<br/> 40 CFR 60.2;<br/> 40 CFR 60.3;<br/> 40 CFR 60.4;<br/> 40 CFR 60.5;<br/> 40 CFR 60.6;<br/> 40 CFR 60.7;<br/> 40 CFR 60.8;<br/> 40 CFR 60.9;<br/> 40 CFR 60.10;<br/> 40 CFR 60.12;<br/> 40 CFR 60.13;<br/> 40 CFR 60.14;<br/> 40 CFR 60.15;<br/> 40 CFR 60.16;<br/> 40 CFR 60.17; and<br/> 40 CFR 60.19.</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR 60.4218(a), 40 CFR 63.6590(c), 40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. IIII(Table 8), Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.2305, Minn. R. 7011.8150, Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p> |
|          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 218 | 35710    | <p>The Permittee shall submit a notification of date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.</p> <p>The notification shall be submitted electronically on Form CS-02. [40 CFR 60.7(a)(1), 40 CFR 63.6590(c), Minn. R. 7011.8150, Minn. R. 7019.0100, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| EQUI 218 | 35720    | <p>The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. The notification shall be submitted electronically on Form CS-02. [40 CFR 60.7(a)(3), 40 CFR 63.6590(c), Minn. R. 7011.8150, Minn. R. 7019.0100, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 218 | 35730    | <p>The Permittee shall submit a notification of anticipated date for conducting opacity observations: Due 30 calendar days before Opacity Observation Date. [40 CFR 60.7(a)(6), 40 CFR 63.6590(c), Minn. R. 7011.8150, Minn. R. 7019.0100, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 218 | 35740    | <p>The Permittee shall submit notification of the date construction of replacement began: Due 60 calendar days before Date of Construction or Replacement (or as soon as practicable). Submit the information specified in 40 CFR 60.15(d)(1) through (7).</p> <p>The notification shall be submitted electronically on Form CS-02. [40 CFR 60.15(d), 40 CFR 63.6590(c), Minn. R. 7011.0050, Minn. R. 7011.8150]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EQUI 219 | 3450     | <p>Opacity &lt;= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.0610, subp. 1(A)(2)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| EQUI 219 | 3460     | <p>Particulate Matter &lt;= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0610, subp. 1(A)(1)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EQUI 225 | 3390     | <p>Opacity &lt;= 5 percent opacity from truck unloading stations, railcar unloading stations, railcar loading stations, and handling operation fugitive emissions. [Minn. R. 7011.1005, subp. 3(A)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 225 | 3391     | <p>The Permittee must limit the hours of DDGS loadout operations each day to the hours of 5AM to 7PM. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| EQUI 225 | 3392     | Hours of Operation: Daily Recordkeeping: On each day of operation, the Permittee must record the time that the first and last DDGS truck is received at the facility. This shall be based on written records or receipts. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]                                                                                                                               |
| EQUI 233 | 3090     | The Permittee is authorized to construct and operate EQUI 233, meeting the following design requirements: a conveyor with a maximum capacity of 120 tons of grain per hour.<br><br>The authorization to start construction of this equipment expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The unit must meet all applicable permit requirements. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]       |
| EQUI 233 | 3100     | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                               |
| EQUI 233 | 3110     | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                  |
| EQUI 234 | 3090     | The Permittee is authorized to construct and operate EQUI 234, meeting the following design requirements: milling equipment with a maximum capacity of 24 tons of grain per hour.<br><br>The authorization to start construction of this equipment expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The unit must meet all applicable permit requirements. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| EQUI 234 | 3100     | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                               |
| EQUI 234 | 3110     | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                  |
| EQUI 235 | 3090     | The Permittee is authorized to construct and operate EQUI 235, meeting the following design requirements: a conveyor with a maximum design capacity of 24 tons of grain per hour.<br><br>The authorization to start construction of this equipment expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The unit must meet all applicable permit requirements. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| EQUI 235 | 3100     | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                               |
| EQUI 235 | 3110     | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.<br><br>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                  |

| SI Id    | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| EQUI 236 | 3090     | The Permittee is authorized to construct and operate EQUI 236, meeting the following design requirements: fermentation equipment with a maximum capacity of 270,000 gallons of beer per hour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|          |          | The authorization to start construction of this equipment expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The unit must meet all applicable permit requirements. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 236 | 3100     | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|          |          | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 236 | 3110     | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|          |          | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 237 | 3090     | The Permittee is authorized to construct and operate EQUI 237, meeting the following design requirements: fermentation equipment with a capacity of 270,000 gallons of beer per hour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|          |          | The authorization to start construction of this equipment expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The unit must meet all applicable permit requirements. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EQUI 237 | 3100     | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|          |          | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EQUI 237 | 3110     | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|          |          | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FUGI 1   | 1        | Fugitive Emissions: Do not cause or permit the transporting of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Do not cause or permit a road or a driveway to be constructed, used, repaired, or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne. [Minn. R. 7011.0150]                                                                                                                                                                                                                                                                                                                                                                                                         |
| FUGI 1   | 2        | Haul Road (roads used by trucks transporting grain, DDGS, ethanol or denaturant) requirements<br>- All haul roads must be paved with hot mix asphalt or concrete except those sections specifically identified as unpaved in the modeling submittal of August 20, 2007.<br>- The Permittee shall inspect all paved haul roads weekly for visible silt accumulation.<br>- The Permittee shall sweep/clean all paved haul roads when silt has accumulated to a visible level on the road, whichever occurs first. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52]                                                                                                                                              |
| FUGI 1   | 3        | Haul Road (roads used by trucks transporting grain, DDGS, ethanol or denaturant) requirements<br>- All haul roads must be paved with hot mix asphalt or concrete except those sections specifically identified as unpaved in the modeling submittal of August 20, 2007.<br>- The Permittee shall inspect all paved haul roads daily for visible silt accumulation.<br>- The Permittee shall sweep/clean all paved haul roads monthly or when silt has accumulated to a visible level on the road, whichever occurs first.<br>- The Permittee shall install signs limiting vehicle speed to 10 mph plant-wide. The Permittee must post the speed limit in a highly visible location near the facility entrance. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)] |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| FUGI 1 | 4        | The Permittee shall sweep/clean all paved roads at least once each calendar month. Anytime fugitive emissions are observed on facility roadways, the Permittee shall immediately eliminate fugitive emissions by sweeping those road segments and/or apply water or a chemical dust suppressant. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.0150]                                                                                                                                                                                         |
| FUGI 1 | 5        | The facility shall maintain records of the paved surfaces inspection that includes the date of the inspection, whether fugitive dust was observed, what corrective actions were taken, when the corrective actions were taken, and whether the corrective actions eliminated the fugitive dust. [Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                              |
| FUGI 1 | 6        | Recordkeeping of Sweeping: The Permittee must record the time, date, and location that the facility paved surfaces were swept. [Minn. R. 7007.0800, subps. 4-5]                                                                                                                                                                                                                                                                                                                                                                               |
| FUGI 1 | 7        | The facility shall maintain records of the weekly inspections that includes the date of the inspection, whether fugitive dust was observed, what corrective actions were taken, when the corrective actions were taken, and whether the corrective actions eliminated the fugitive dust. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52]                                                                                              |
|        |          | The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. VVa as follows:                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|        |          | 40 CFR 60.480a(a)-(b);<br>40 CFR 60.481a;<br>40 CFR 60.482-1a(a);<br>40 CFR 60.482-1a(b);<br>40 CFR 60.482-1a(e);<br>40 CFR 60.482-1a(f);<br>40 CFR 60.482-1a(g);<br>40 CFR 60.482-2a;<br>40 CFR 60.482-3a;<br>40 CFR 60.482-4a;<br>40 CFR 60.482-5a;<br>40 CFR 60.482-6a;<br>40 CFR 60.482-7a;<br>40 CFR 60.482-8a;<br>40 CFR 60.482-9a;<br>40 CFR 60.482-10a;<br>40 CFR 60.483-1a;<br>40 CFR 60.483-2a;<br>40 CFR 60.484a(a)-(f);<br>40 CFR 60.485a;<br>40 CFR 60.486a;<br>40 CFR 60.487a(a)-(i);<br>40 CFR 60.488a; and<br>40 CFR 60.489a. |
|        |          | A copy of 40 CFR pt. 60, subp. VVa is included in Appendix E.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FUGI 7 | 6900     | If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FUGI 7 | 6910     | Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency for Volatile Organic Compounds $\geq$ 95.0 percent, or to an exit concentration of 20 parts per million by volume (ppmv), whichever is less stringent. [40 CFR 60.482-10a(b), Minn. R. 7011.2900(D)]                                                                                                                                                                             |
| FUGI 7 | 6920     | Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency for Volatile Organic Compounds $\geq$ 95.0 percent, or to an exit concentration of 20 ppmv, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 deg C. [40 CFR 60.482-10a(c), Minn. R. 7011.2900(D)]                                                                                                   |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| FUGI 7  | 6930     | <p>The Permittee shall submit a report: Due semiannually, effective after Initial Startup, by the 31st of January and July that includes the information specified in 40 CFR 60.487a.</p> <p>Beginning July 15, 2025, or once the report template for this subpart has been available on the CEDRI website for 1 year, whichever date is later, the Permittee must submit the semiannual compliance report to the EPA using the appropriate electronic report template on the CEDRI website for 40 CFR pt. 60, subp. VVa. [40 CFR 60.487a(a), 40 CFR 60.487a(g), Minn. R. 7011.2900(D)]</p>                                                                                                                                                                                                                                                                                                                     |
|         |          | <p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>40 CFR 60.1(a);<br/> 40 CFR 60.1(b);<br/> 40 CFR 60.2;<br/> 40 CFR 60.3;<br/> 40 CFR 60.4;<br/> 40 CFR 60.7(a)(1);<br/> 40 CFR 60.7(a)(3);<br/> 40 CFR 60.7(a)(4);<br/> 40 CFR 60.7(b);<br/> 40 CFR 60.8(b);<br/> 40 CFR 60.8(d);</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| FUGI 7  | 35700    | <p>40 CFR 60.8(e);<br/> 40 CFR 60.11(a);<br/> 40 CFR 60.12;<br/> 40 CFR 60.14(a);<br/> 40 CFR 60.14(b);<br/> 40 CFR 60.14(c);<br/> 40 CFR 60.14(e);<br/> 40 CFR 60.14(f);<br/> 40 CFR 60.14(g);<br/> 40 CFR 60.15;<br/> 40 CFR 60.17; and<br/> 40 CFR 60.19.</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix B. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than three years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3. [40 CFR pt. 60, subp. A, 40 CFR pt. 60, subp. VVa, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.0050, subp. 1(A), Minn. R. 7011.2900(D), Minn. R. 7017.1010 &amp; 7017.2015, subp. 2, Minn. R. 7019.0100]</p> |
| FUGI 15 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FUGI 15 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FUGI 16 | 3680     | Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FUGI 16 | 3690     | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| FUGI 20 | 1        | <p>For the purposes of FUGI 20, the listed terms shall have the following specific definitions.</p> <p>"Connector" means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment or that close an opening in a pipe that could be connected to another pipe. Joined fittings welded completely around the circumference of the interface are not considered connectors.</p> <p>"Equipment" means each component on top of all fermenters and the beer well, including pressure relief and/or vacuum breaker valves, valve, agitators, access doors (i.e., manways), and connectors.</p> <p>"First attempt at repair" means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.</p> <p>"In organic HAP service" means a process unit that either contains or contacts a feedstock, byproduct, or product that contains an organic HAP, excluding any organic HAP used in manual cleaning activities. A process unit is no longer in organic HAP service after the unit has been emptied to the extent practicable (i.e., a unit with liquid left on process vessel walls or as bottom clingage, but not in pools, due to floor irregularity, is considered completely empty) and any cleaning has been completed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                   |
|         |          | <p>"Process unit" means each individual fermenter and beer well and the components assembled and connected by pipes or ducts that make up these units.</p> <p>"Process unit shutdown" means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be accomplished. The following are not considered process unit shutdowns:</p> <ol style="list-style-type: none"> <li>1) An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours.</li> <li>2) An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown.</li> <li>3) The use of spare equipment and technically feasible bypassing of equipment without stopping production.</li> </ol> <p>"Quarter" means a 3-month period; the first quarter concludes on the last day of the last full month during the 90 days following permit issuance.</p> <p>"Repaired" means equipment is adjusted or otherwise altered, in order to eliminate a leak as defined in FUGI 20 and is re-monitored as specified in FUGI 20 to verify that emissions from the equipment are below the applicable leak definition. [Minn. R. 7007.0800, subp. 2(A)]</p> |
| FUGI 20 | 2        | <p>The Permittee shall maintain a Master Component List at the facility that contains the following information for each component:</p> <ol style="list-style-type: none"> <li>1) Current monitoring frequency;</li> <li>2) Type of component (pressure relief valve, vacuum breaker valve, valve, agitator, access door, or connector);</li> <li>3) Equipment description and ID (e.g., EQUI 12 - Fermenter #6) of associated equipment;</li> <li>4) Unit identification for the component;</li> <li>5) Date the component was added; and</li> <li>6) Date the component was removed.</li> </ol> <p>The Permittee shall update the Master Component List as soon as practical after adding, modifying, or replacing components. The Master Component List shall be readily available on-site. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| FUGI 20 | 3        | <p>The Permittee shall identify and affix a label with a unique number for each individual component on each fermenter and beer well. The components that need to be labeled are as follows:</p> <ol style="list-style-type: none"> <li>1) Pressure relief valves;</li> <li>2) Vacuum breaker valves;</li> <li>3) Valves;</li> <li>4) Agitators;</li> <li>5) Access doors (i.e., manways); and</li> <li>6) Connectors.</li> </ol> <p>The label must be identified in the Master Component List at the facility. The label can be affixed by placard, stencil, or other means. The label must be maintained so that it is readable and visible at all times. If components are added or replaced, they must be given a new unique label. Labels from replaced or removed components must not be reused. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| FUGI 20 | 4        | <p>Leak Monitoring for Valves - The Permittee shall conduct monthly monitoring, except as described below, for each valve in the Master Component List to detect leaks using the methods and leak definitions specified in FUGI 20 of this permit.</p> <p>Any component for which a leak is not detected for 2 successive months may be monitored quarterly, beginning with the next quarter, until a leak is detected. If a leak is detected, the component shall return to monthly monitoring, beginning with the next month, until a leak is not detected for 2 successive months. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                               |
| FUGI 20 | 5        | <p>Leak Monitoring for Connectors, Agitators, Access doors, and Pressure relief, and Vacuum Breaker Valves – The Permittee shall conduct quarterly monitoring for each connector, agitator, access door, pressure relief valve, and vacuum breaker valve in the Master Component List to detect leaks using the methods and leak definitions specified in FUGI 20 of this permit. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FUGI 20 | 6        | <p>Quarterly monitoring events must be separated by at least 30 calendar days. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 4, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FUGI 20 | 7        | <p>During monitoring events, the Permittee shall ensure the following:</p> <ol style="list-style-type: none"> <li>1) Components are not isolated from the combined fermenter and beer well gas header system; and</li> <li>2) The fermenters and beer well are operated under normal operating conditions as defined in this permit.</li> </ol> <p>[Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 4, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FUGI 20 | 8        | <p>Leak Definition for Pressure Relief Valves and Vacuum Breaker Valves: The Permittee shall maintain and operate all pressure relief valves and vacuum breaker valves with no detectable emissions, as indicated by an instrument reading of less than 500 parts per million of VOC above background. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FUGI 20 | 9        | <p>Leak Definition for Access Doors, Agitators, Connectors, and Valves: The Permittee shall maintain and operate all access doors, agitators, and connectors with an instrument reading of less than 10,000 parts per million of VOC above background. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FUGI 20 | 10       | <p>Method 21 of Appendix A-7 to 40 CFR pt. 60 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:</p> <ol style="list-style-type: none"> <li>1) Zero air (less than 10 ppm of hydrocarbon in air); and</li> <li>2) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Title I Condition: Avoid major source under 40 CFR 63.2]</li> </ol>                                                                                                                                                                                                                                                                                                                   |
| FUGI 20 | 11       | <p>For no detectable emission monitoring in FUGI 20, the Permittee shall use Method 21 of Appendix A-7 to 40 CFR pt. 60 to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                               |

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| FUGI 20 | 12       | When a leak is detected, a first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FUGI 20 | 13       | When a leak is detected, it must be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9 - Standards: Delay of repair (DOR). In the event the Permittee places a component on the DOR list, the Permittee must include in the semiannual report the rationale for placing the component on the DOR list. For the purposes of FUGI 20 of this permit, the term "equipment" used in 40 CFR 60.482-9 shall have the meaning specified in FUGI 20 of this permit. [Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FUGI 20 | 14       | When the leak repair is made, repair verification monitoring must be done within 5 calendar days of the repair to confirm the repair was successful. [Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FUGI 20 | 15       | First attempts at repair include, but are not limited to, the following best practices where practicable:<br>1) Tightening of bonnet bolts;<br>2) Replacement of bonnet bolts;<br>3) Tightening of packing gland nuts;<br>4) Injection of lubricant into lubricated packing; and<br>5) Ensuring that the seal flush is operating at design pressure and temperature. [Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FUGI 20 | 16       | The Permittee must maintain a supply of replacement parts adequate to accomplish potential repairs of components in the Master Component List for this program. [Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FUGI 20 | 17       | Anytime pressure relief valves and/or vacuum breaker valves open (i.e., pressure release), the Permittee shall return the device to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 parts per million of VOC above background, as soon as practicable, but no later than 5 calendar days after the opening, except as described in 40 CFR 60.482-9 - Standards: Delay of repair (DOR). For the purposes of FUGI 20 of this permit, the term "equipment" used in 40 CFR 60.482-9 shall have the meaning specified in FUGI 20 of this permit. [Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                  |
| FUGI 20 | 18       | The Permittee shall conduct monitoring within 5 calendar days after a pressure release valve or vacuum breaker valve opening to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 parts per million of VOC above background. [Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FUGI 20 | 19       | Each vessel that is equipped with an access hatch (i.e., manway) must be closed at all times when it is in organic HAP service, except for manual operations that require access, such as material addition and removal, inspection, sampling and cleaning. An access hatch opening when in organic HAP service is considered a deviation as defined in Minn. R. 7007.0100, subp. 8a and must be reported. [Minn. R. 7007.0800, subp. 2(A) & (B), Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FUGI 20 | 20       | <p>The Permittee may designate a component as unsafe-to-monitor for the current monitoring period if personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements of FUGI 20 for that specific monitoring period. If a component is deemed unsafe-to-monitor for a specific monitoring period, that component is exempt from the monitoring requirements in FUGI 20 only for that monitoring period. The Permittee shall maintain records of each individual component that is deemed as unsafe-to-monitor, an explanation of why the component is unsafe to monitor, and the plan for monitoring the component during the next monitoring period.</p> <p>This evaluation is for each individual component and is for one monitoring period only. The Permittee needs to reevaluate the unsafe-to-monitor designation for each monitoring period if the Permittee desires to maintain the designation for a specific component. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Title I Condition: Avoid major source under 40 CFR 63.2]</p> |

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| FUGI 20 | 21       | <p>The Permittee shall record and maintain the following records for the fermenter and beer well leak detection and repair program:</p> <ol style="list-style-type: none"> <li>1) The date and reason for each monitoring event;</li> <li>2) The background level measured during each monitoring;</li> <li>3) The maximum instrument reading measured at each component during each monitoring event, including repair verification - monitoring done following each repair attempt;</li> <li>4) The date the leak was detected and the dates of each attempt to repair the leak;</li> <li>5) Repair methods applied in each attempt to repair the leak;</li> <li>6) For any leaking component for which repair was delayed, the reason repair was delayed, why it was technologically infeasible to repair, and the date the repair was ultimately made;</li> <li>7) For any component that was designated as unsafe-to-monitor, an explanation for why the component is unsafe-to-monitor, and the plan for monitoring each component designated as unsafe-to-monitor;</li> <li>8) The date of each occurrence of pressure relief and vacuum breaker valve "opening" and associated monitoring confirming that the pressure relief and/or vacuum breaker valve returned to a condition of no detectable emissions;</li> <li>9) Instrument calibration logs and response time determinations per Method 21 of Appendix A-7 to 40 CFR pt. 60;</li> <li>10) The dates of process unit shutdowns; and</li> <li>11) The date of successful repair of the leak.</li> </ol> <p>These records shall be kept on-site for a minimum of 5 years. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| FUGI 20 | 22       | <p>The Permittee shall perform a root cause analysis and take corrective actions for every component that is placed on the delay of repair (DOR) list. In the root cause analysis, the Permittee must determine the cause of the DOR. The Permittee shall identify and implement corrective actions to reduce the likelihood of similar events requiring the use of DOR. The Permittee shall maintain records of the root cause analysis and any corrective actions taken. These records shall be kept on-site for a minimum of 5 years. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7007.0800, subp. 5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FUGI 20 | 23       | <p>The Permittee shall submit a report: Due semiannually, effective after Permit Issuance, by the 31st of January and July that includes the information specified in FUGI 20 of this Permit. This report must occur at the same time as the semiannual report required for FUGI 7 in Section 6 of this permit. [Minn. R. 7007.0800, subp. 6]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TREA 6  | 1        | <p>The Permittee shall vent emissions from EQUI 67 and 71 to TREA 6 whenever EQUI 67 and 71 operate, and operate and maintain TREA 6 at all times that any emissions are vented to TREA 6. The Permittee shall document periods of non-operation of the control equipment. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 6  | 2        | <p>If the Permittee replaces or modifies TREA 6, such control equipment is subject to all of the requirements of TREA 6. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.</p> <p>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 6  | 3        | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Volatile Organic Compounds <math>\geq</math> 95 percent control efficiency. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 6  | 4        | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Volatile Organic Compounds <math>\geq</math> 98 percent control efficiency. Uncaptured emissions from ethanol loadout are accounted for at EQUI 224. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| TREA 6 | 5        | <p>The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. If visible emissions are identified, the Permittee must document the period of time that visible emissions are present and must report a deviation.</p> <p>If the Permittee conducts testing using EPA Reference Method 22 at the time of the event, and verifies that visible emissions were present for less than 5 minutes in a two-hour period, the Permittee does not need to report a deviation, but must maintain records of the test at the facility.</p> <p>The Permittee shall determine the presence of visible emissions using Reference Method 22 when requested by the Commissioner. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| TREA 6 | 6        | <p>The flare must be operated with a flare flame or pilot flame (or an electronically controlled automatic igniter system) present at all times. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 6 | 7        | <p>The flare shall be used only when the net heating value of the gas being combusted is greater than or equal to 300 Btu/scf if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 200 Btu/scf or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f)(3). [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 6 | 8        | <p>Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity and velocity <math>V_{max}</math>, as determined by the methods in 40 CFR 60.18(f)(3), (f)(4) and (f)(5) less than 60 ft/sec, except as provided below:</p> <ol style="list-style-type: none"> <li>1. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, equal to or greater than 60 ft/sec but less than 400 ft/sec are allowed if the net heating value of the gas being combusted is greater than 1,000 Btu/scf, and</li> <li>2. Steam-assisted and nonassisted flares designed for and operated with an exit velocity less than the velocity, <math>V_{max}</math>, and less than 400 ft/sec are allowed. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</li> </ol>                                                                        |
| TREA 6 | 9        | <p>Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, <math>V_{max}</math> as determined by the method in 40 CFR 60.18(f)(6). [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 6 | 10       | <p>Flares shall be steam-assisted, air-assisted, or nonassisted. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 6 | 11       | <p>Monitoring Equipment: The Permittee shall install and maintain a thermocouple or other equivalent monitoring device for monitoring and recording the presence of a flame as required by this permit, at least once every 15 minutes. The monitoring equipment must be installed, in use, and properly maintained when the monitored flare is in operation. This includes, but is not limited to, maintaining necessary parts for routine repairs. [40 CFR 64.3(b), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 6 | 12       | <p>Daily Inspections: The Permittee shall physically verify the operation of the flame recording device at least once every 24 hours to verify that it is working and recording properly. The Permittee shall maintain a record of the daily verifications. [40 CFR 64.3(b), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 6 | 13       | <p>Daily Visible Emissions Check: The Permittee shall conduct a visual observation of the flare at least once every 24 hours, when emissions are vented to the flare, to verify that there are no visible emissions. The Permittee shall maintain a record of the daily readings. [40 CFR 64.3(b), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 6 | 14       | <p>The Permittee shall calibrate or replace the thermocouple or other equivalent monitoring device at least once every 12 months, or calibrate at the frequency stated in the manufacturer's specifications, and shall maintain a record of the calibration and any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| TREA 6 | 15       | The Permittee shall operate and maintain the flare in conformance with its design and in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 6 | 16       | Annual Inspection: At least once per calendar year, the Permittee shall conduct an inspection of the operating systems of the control device. The Permittee shall maintain a record of the inspection and any action resulting from the inspection. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TREA 6 | 17       | <p>Recordkeeping: The Permittee shall record the date, times and duration of all periods during which:</p> <ol style="list-style-type: none"> <li>1. the flare flame or all the pilot flames are absent;</li> <li>2. visible emissions were documented;</li> <li>3. whether or not emissions were being vented to the flare during periods of flame absence; and</li> <li>4. whether or not emissions were being vented to the flare during periods of visible emissions.</li> </ol> <p>If periods of flame absence or visible emissions are recorded when emissions are being vented to the flare, the emissions during that time shall be considered uncontrolled until flame presence and/or no visible emission conditions are restored. The period of time for which there is no flame, or there are visible emissions are considered deviations as defined by Minn. R. 7007.0100, subp. 8a and must be reported. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| TREA 6 | 18       | Recordkeeping of Flame Presence and Visible Emissions (VE) Observations: The Permittee shall maintain records of flame presence, VE observations, and other supporting information for at least five years following the date of such observations. The Permittee may maintain records on alternative media, such as computer files, provided that the use allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TREA 6 | 19       | <p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions are observed;</li> <li>- the presence of a flame is not detected; or</li> <li>- the flare or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the flame presence, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the flare. The Permittee shall keep a record of the type and date of any corrective action taken for each flare. [40 CFR 64.7(d), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 6 | 20       | Continued operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 64.7(c), Minn. R. 7017.0200]                                                |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| TREA 6 | 21       | Response to excursions or exceedances. Upon detecting an excursion or exceedance, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. [40 CFR 64.7(d), Minn. R. 7017.0200] |
| TREA 6 | 22       | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 6 | 23       | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 6 | 24       | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 7 | 16440    | The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee must vent emissions from all conveyors, elevators and milling equipment, including existing, modified, or new conveyors, elevators and milling equipment, to a fabric filter meeting the permit requirements for TREA 7. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0075, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 7 | 16450    | If the Permittee replaces or modifies TREA 7, such control equipment is subject to all of the requirements of TREA 7. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.<br><br>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TREA 7 | 17110    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter $\geq 99$ percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 7 | 17120    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM $< 10$ micron $\geq 93$ percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0070, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 7 | 17130    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM $< 2.5$ micron $\geq 93$ percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| TREA 7 | 17140    | The Permittee must operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TREA 7 | 17150    | Daily Inspections: The Permittee shall do the following, once every 24 hours:<br>1). Inspect the fabric filter stack STRU 29 for any visible emissions during daylight hours, except during inclement weather. If there are visible emissions, the emissions shall be considered uncontrolled until there are no longer visible emissions. The period of time for which there are visible emissions shall be reported as a deviation.<br>2). During inclement weather, read and record the pressure drop across the fabric filter. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                         |
| TREA 7 | 17160    | Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                 |
| TREA 7 | 17170    | Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 7 | 17180    | The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 7 | 17190    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 7 | 17200    | Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:<br><br>- visible emissions are observed; or<br>- the recorded pressure drop is outside the required operating range; or<br>- the fabric filter or any of its components are found during the inspections to need repair.<br><br>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200] |
| TREA 7 | 17230    | Pressure Drop $\geq 0.05$ and $\leq 4.0$ inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.<br><br>If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                           |



| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|        |          | <p>Protocol for Resetting the Pressure Drop Range Limit: The Permittee shall conduct performance testing to measure the PM/PM10/PM2.5 emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
| TREA 7 | 17240    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 7 | 17250    | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|        |          | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 7 | 17260    | [Minn. R. 7017.2025]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|        |          | <p>Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TREA 7 | 35750    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|        |          | <p>As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 7 | 35760    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|        |          | <p>The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TREA 7 | 35770    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| SI Id  | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| TREA 8 | 16440    | The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee must vent emissions from all conveyors, elevators and milling equipment, including existing, modified, or new conveyors, elevators and milling equipment, to a fabric filter meeting the permit requirements for TREA 8. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0075, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                   |
| TREA 8 | 16450    | <p>If the Permittee replaces or modifies TREA 8, such control equipment is subject to all of the requirements of TREA 8. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.</p> <p>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                              |
| TREA 8 | 17110    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter $\geq 99$ percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 8 | 17120    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron $\geq 93$ percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0070, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                  |
| TREA 8 | 17130    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron $\geq 93$ percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 8 | 17140    | The Permittee must operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 8 | 17150    | <p>Daily Inspections: The Permittee shall do the following, once every 24 hours:</p> <ol style="list-style-type: none"> <li>1). Inspect the fabric filter stack STRU 30 for any visible emissions during daylight hours, except during inclement weather. If there are visible emissions, the emissions shall be considered uncontrolled until there are no longer visible emissions. The period of time for which there are visible emissions shall be reported as a deviation.</li> <li>2). During inclement weather, read and record the pressure drop across the fabric filter. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</li> </ol> |
| TREA 8 | 17160    | Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                     |
| TREA 8 | 17170    | Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 8 | 17180    | The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 8 | 17190    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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| TREA 8 | 17200    | <p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions are observed; or</li> <li>- the recorded pressure drop is outside the required operating range; or</li> <li>- the fabric filter or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TREA 8 | 17230    | <p>Pressure Drop <math>\geq 0.05</math> and <math>\leq 4.0</math> inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 8 | 17240    | <p><b>Protocol for Resetting the Pressure Drop Range Limit:</b> The Permittee shall conduct performance testing to measure the PM/PM10/PM2.5 emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
| TREA 8 | 17250    | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| TREA 8 | 17260    | Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]                                                                                                                                                                                                                  |
| TREA 8 | 35750    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                             |
| TREA 8 | 35760    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                   |
| TREA 8 | 35770    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                     |
| TREA 9 | 16440    | The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee must vent emissions from all conveyors, elevators and milling equipment, including existing, modified, or new conveyors, elevators and milling equipment, to a fabric filter meeting the permit requirements for TREA 9. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0075, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                               |
| TREA 9 | 16450    | If the Permittee replaces or modifies TREA 9, such control equipment is subject to all of the requirements of TREA 9. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.<br><br>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| TREA 9 | 17110    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter $\geq 99$ percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                               |
| TREA 9 | 17120    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM $< 10$ micron $\geq 93$ percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0070, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                            |
| TREA 9 | 17130    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM $< 2.5$ micron $\geq 93$ percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                |
| TREA 9 | 17140    | The Permittee must operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| TREA 9 | 17150    | <p>Daily Inspections: The Permittee shall do the following, once every 24 hours:</p> <p>1). Inspect the fabric filter stack STRU 31 for any visible emissions during daylight hours, except during inclement weather. If there are visible emissions, the emissions shall be considered uncontrolled until there are no longer visible emissions. The period of time for which there are visible emissions shall be reported as a deviation.</p> <p>2). During inclement weather, read and record the pressure drop across the fabric filter. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                            |
| TREA 9 | 17160    | <p>Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                            |
| TREA 9 | 17170    | <p>Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 9 | 17180    | <p>The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 9 | 17190    | <p>Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 9 | 17200    | <p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions are observed; or</li> <li>- the recorded pressure drop is outside the required operating range; or</li> <li>- the fabric filter or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]</p> |
| TREA 9 | 17230    | <p>Pressure Drop <math>\geq 0.05</math> and <math>\leq 4.0</math> inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                |

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|        |          | <p>Protocol for Resetting the Pressure Drop Range Limit: The Permittee shall conduct performance testing to measure the PM/PM10/PM2.5 emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
| TREA 9 | 17240    | 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 9 | 17250    | The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit required by this permit. [Minn. R. 7007.1500, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 9 | 17260    | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change.</p> <p>[Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TREA 9 | 35750    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 9 | 35760    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 9 | 35770    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| TREA 10 | 16440    | The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee must vent emissions from all conveyors, elevators and milling equipment, including existing, modified, or new conveyors, elevators and milling equipment, to a fabric filter meeting the permit requirements for TREA 10. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0075, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                      |
| TREA 10 | 16450    | If the Permittee replaces or modifies TREA 10, such control equipment is subject to all of the requirements of TREA 10. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.<br><br>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                       |
| TREA 10 | 17110    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter $\geq 99$ percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 10 | 17120    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron $\geq 93$ percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0070, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                      |
| TREA 10 | 17130    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron $\geq 93$ percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 10 | 17140    | The Permittee must operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 10 | 17150    | Daily Inspections: The Permittee shall do the following, once every 24 hours:<br>1). Inspect the fabric filter stack STRU 32 for any visible emissions during daylight hours, except during inclement weather. If there are visible emissions, the emissions shall be considered uncontrolled until there are no longer visible emissions. The period of time for which there are visible emissions shall be reported as a deviation.<br>2). During inclement weather, read and record the pressure drop across the fabric filter. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| TREA 10 | 17160    | Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                         |
| TREA 10 | 17170    | Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 10 | 17180    | The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TREA 10 | 17190    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| TREA 10 | 17200    | <p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions are observed; or</li> <li>- the recorded pressure drop is outside the required operating range; or</li> <li>- the fabric filter or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TREA 10 | 17230    | <p>Pressure Drop <math>\geq 0.05</math> and <math>\leq 4.0</math> inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 10 | 17240    | <p><b>Protocol for Resetting the Pressure Drop Range Limit:</b> The Permittee shall conduct performance testing to measure the PM/PM10/PM2.5 emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
| TREA 10 | 17250    | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| TREA 10 | 17260    | Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]                                                                                                                                                                                                                                                                        |
| TREA 10 | 35750    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                                                                                   |
| TREA 10 | 35760    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                                                                         |
| TREA 10 | 35770    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                                                                           |
| TREA 11 | 3430     | Particulate Matter $\geq$ 80 percent collection efficiency for the control equipment. [Minn. R. 7011.1005, subp.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TREA 11 | 16440    | The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee must vent emissions from all conveyors, elevators, loading-unloading equipment, rolling equipment, and silos/bins, including existing, modified, or new conveyors, elevators, loading-unloading equipment, rolling equipment, and silos/bins, to a fabric filter meeting the permit requirements of TREA 11. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0075, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| TREA 11 | 16450    | If the Permittee replaces or modifies TREA 11, such control equipment is subject to all of the requirements of TREA 11. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.<br><br>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                     |
| TREA 11 | 17110    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter $\geq$ 79.2 percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                   |
| TREA 11 | 17111    | The Permittee shall operate and maintain control equipment such that it achieves a capture efficiency for Particulate Matter $\geq$ 80 percent capture efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                    |
| TREA 11 | 17120    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron $\geq$ 74.4 percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0070, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                  |
| TREA 11 | 17121    | The Permittee shall operate and maintain control equipment such that it achieves a capture efficiency for PM < 10 micron $\geq$ 80.0 percent capture efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                      |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| TREA 11 | 17130    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron $\geq$ 74.4 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 11 | 17131    | The Permittee shall operate and maintain control equipment such that it achieves a capture efficiency for PM < 2.5 micron $\geq$ 80.0 percent capture efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TREA 11 | 17140    | The Permittee must operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 11 | 17150    | Daily Inspections: The Permittee shall do the following, once every 24 hours:<br>1). Inspect the fabric filter stack STRU 23 for any visible emissions during daylight hours, except during inclement weather. If there are visible emissions, the emissions shall be considered uncontrolled until there are no longer visible emissions. The period of time for which there are visible emissions shall be reported as a deviation.<br>2). During inclement weather, read and record the pressure drop across the fabric filter. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                          |
| TREA 11 | 17160    | Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                  |
| TREA 11 | 17170    | Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TREA 11 | 17180    | The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 11 | 17190    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TREA 11 | 17200    | Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:<br><br>- visible emissions are observed; or<br>- the recorded pressure drop is outside the required operating range; or<br>- the fabric filter or any of its components are found during the inspections to need repair.<br><br>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]  |
| TREA 11 | 17210    | Hood Certification and Evaluation: The Permittee must maintain the most current record of the hood evaluation and certification on site. The control device hood must be evaluated by a testing company as specified in Minn. R. 7011.0072, subp. 2(A) and must conform to the design and operating requirements listed in Minn. R. 7011.0072, subps. 2(B) and 3. The hood certification must address how cross-drafts are accommodated in the design (e.g., higher face velocity, oversized hood, etc.) and the Permittee must certify this as specified in Minn. R. 7011.0072, subps. 2 and 3. [Minn. R. 7011.0072, subps. 2-4, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |

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| TREA 11 | 17220    | Annual Hood Evaluation: The Permittee must measure and record at least once every 12 months the fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow parameter that was measured during the most recent hood certification to verify the hood design and operation parameters meet or exceed the parameters measured during the most recent hood evaluation conducted according to Minn. R. 7011.0072, subps. 2 & 3 as required by Minn. R. 7011.0072, subp. 4. The Permittee must maintain a copy of the annual evaluations on site for 5 years. [Minn. R. 7011.0072, subp. 4, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 11 | 17230    | <p>Pressure Drop <math>\geq 0.05</math> and <math>\leq 4.0</math> inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TREA 11 | 17240    | <p>Protocol for Resetting the Pressure Drop Range Limit: The Permittee shall conduct performance testing to measure the PM/PM10/PM2.5 emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
| TREA 11 | 17250    | The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit required by this permit. [Minn. R. 7007.1500, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 11 | 17260    | Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| TREA 11 | 35750    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                               |
| TREA 11 | 35760    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                     |
| TREA 11 | 35770    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                       |
| TREA 14 | 16440    | The Permittee must vent emissions from all dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, including existing, modified, or new dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, to a RTO meeting the permit requirements of TREA 14. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                    |
| TREA 14 | 16450    | If the Permittee replaces or modifies TREA 14, such control equipment is subject to all of the requirements of TREA 14. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.<br><br>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| TREA 14 | 19130    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Volatile Organic Compounds $\geq$ 95 percent control efficiency (VOC as mass) or less than or equal to 10 parts per million. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                      |
| TREA 14 | 19131    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Carbon Monoxide $\geq$ 90 percent control efficiency by RTO or less than or equal to 100 parts per million. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                       |
| TREA 14 | 19132    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter $\geq$ 80.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                               |
| TREA 14 | 19133    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron $\geq$ 80.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                   |
| TREA 14 | 19134    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron $\geq$ 80.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                  |

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| TREA 14 | 19150    | Temperature $\geq$ 1634 degrees Fahrenheit 3-hour rolling average at the combustion chamber outlet (Minimum Temperature Limit), unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below. If the recorded 3-hour rolling average temperature is below the Minimum Temperature Limit, the VOC used during that time must be considered uncontrolled until the average temperature is above the Minimum Temperature Limit. This must be reported as a deviation. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                           |
| TREA 14 | 19160    | The Permittee must operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TREA 14 | 19170    | Temperature Monitoring: The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 4.5 degrees Fahrenheit. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.3(b)(4)(ii), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                             |
| TREA 14 | 19180    | Daily Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain a written record of the daily verifications. [40 CFR 64.3(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                        |
| TREA 14 | 19190    | Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 14 | 19200    | The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 14 | 19210    | Annual Calibration: The Permittee shall calibrate the temperature monitor at least once every 12 months and shall maintain a written record of the calibration and any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TREA 14 | 19220    | Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 14 | 19230    | Annual Inspection: At least once per calendar year, the Permittee shall conduct an internal inspection of the control device that includes all operating systems of the control device. The Permittee shall maintain a written record of the inspection and any action resulting from the inspection. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 14 | 19240    | For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee must use either one of the following when completing calculations as required elsewhere in this permit:<br>a. The control efficiency limit specified in this permit for this equipment (95% VOC, 90% CO, 80.0% PM, PM10 and PM2.5); or<br>b. The control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| TREA 14 | 19250    | <p>Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 64.7(d), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TREA 14 | 19280    | <p>Protocol for Re-Setting the Minimum Temperature Limit: The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the Minimum Temperature Limit is to be re-set, the re-set shall be based on the average temperature values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. During the performance test, the Permittee must continuously monitor the temperature in the combustion chamber. The Permittee must calculate the average temperature from the combustion chamber by reducing the temperature data to an average temperature based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The Minimum Temperature Limit shall be re-set as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average temperature recorded during the test is within 25 deg F of the limit, it shall not be re-set and the established Minimum Temperature Limit remains unchanged; or</li> <li>- if the 3-hour average temperature is more than 25 deg F greater or less than the established limit, it shall be re-set as the average temperature of the performance test. Ongoing compliance with the temperature limit will be determined using the same data acquisition and reduction as was used during the performance test.</li> </ul> <p>The new Minimum Temperature Limit determined using this Protocol shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn.</p> |
| TREA 14 | 19290    | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Minimum Temperature Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 14 | 19300    | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TREA 14 | 35750    | <p>Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing combustion chamber temperature limit, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 14 | 35760    | <p>As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 14 | 35770    | <p>The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 15 | 3430     | <p>Particulate Matter <math>\geq</math> 80 percent collection efficiency for the control equipment. [Minn. R. 7011.1005, subp.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| TREA 15 | 16440    | The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee must vent emissions from all conveyors, elevators, material handling equipment, and silos/bins, including existing, modified or new conveyors, elevators, material handling equipment, and silos/bins, to a fabric filter meeting the permit requirements for TREA 15. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0075, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                     |
| TREA 15 | 16450    | <p>If the Permittee replaces or modifies TREA 15, such control equipment is subject to all of the requirements of TREA 15. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.</p> <p>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                            |
| TREA 15 | 17110    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter $\geq 79.2$ percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 15 | 17111    | The Permittee shall operate and maintain control equipment such that it achieves a capture efficiency for Particulate Matter $\geq 80$ percent capture efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 15 | 17120    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM $< 10$ micron $\geq 74.4$ percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0070, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                              |
| TREA 15 | 17121    | The Permittee shall operate and maintain control equipment such that it achieves a capture efficiency for PM $< 10$ micron $\geq 80.0$ percent capture efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 15 | 17130    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM $< 2.5$ micron $\geq 74.4$ percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 15 | 17131    | The Permittee shall operate and maintain control equipment such that it achieves a capture efficiency for PM $< 2.5$ micron $\geq 80.0$ percent capture efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 15 | 17140    | The Permittee must operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 15 | 17150    | <p>Daily Inspections: The Permittee shall do the following, once every 24 hours:</p> <ol style="list-style-type: none"> <li>1). Inspect the fabric filter stack STRU 33 for any visible emissions during daylight hours, except during inclement weather. If there are visible emissions, the emissions shall be considered uncontrolled until there are no longer visible emissions. The period of time for which there are visible emissions shall be reported as a deviation.</li> <li>2). During inclement weather, read and record the pressure drop across the fabric filter. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</li> </ol> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| TREA 15 | 17160    | Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                   |
| TREA 15 | 17170    | Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 15 | 17180    | The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TREA 15 | 17190    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 15 | 17200    | <p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions are observed; or</li> <li>- the recorded pressure drop is outside the required operating range; or</li> <li>- the fabric filter or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]</p> |
| TREA 15 | 17210    | Hood Certification and Evaluation: The Permittee must maintain the most current record of the hood evaluation and certification on site. The control device hood must be evaluated by a testing company as specified in Minn. R. 7011.0072, subp. 2(A) and must conform to the design and operating requirements listed in Minn. R. 7011.0072, subps. 2(B) and 3. The hood certification must address how cross-drafts are accommodated in the design (e.g., higher face velocity, oversized hood, etc.) and the Permittee must certify this as specified in Minn. R. 7011.0072, subps. 2 and 3. [Minn. R. 7011.0072, subps. 2-4, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                  |
| TREA 15 | 17220    | Annual Hood Evaluation: The Permittee must measure and record at least once every 12 months the fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow parameter that was measured during the most recent hood certification to verify the hood design and operation parameters meet or exceed the parameters measured during the most recent hood evaluation conducted according to Minn. R. 7011.0072, subps. 2 & 3 as required by Minn. R. 7011.0072, subp. 4. The Permittee must maintain a copy of the annual evaluations on site for 5 years. [Minn. R. 7011.0072, subp. 4, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                         |
| TREA 15 | 17230    | <p>Pressure Drop <math>\geq 0.05</math> and <math>\leq 4.0</math> inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|         |          | <p>Protocol for Resetting the Pressure Drop Range Limit: The Permittee shall conduct performance testing to measure the PM/PM10/PM2.5 emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
| TREA 15 | 17240    | 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 15 | 17250    | The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit required by this permit. [Minn. R. 7007.1500, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 15 | 17260    | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change.</p> <p>[Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TREA 15 | 35750    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 15 | 35760    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 15 | 35770    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| TREA 17 | 17610    | The Permittee must vent emissions from all dehydrators, distillation equipment, fermentation equipment, liquefaction equipment, separation equipment, and stripping equipment, including existing, modified, or new dehydrators, distillation equipment, fermentation equipment, liquefaction equipment, separation equipment, and stripping equipment, to a scrubber meeting the permit requirements for TREA 17. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                    |
| TREA 17 | 17615    | <p>If the Permittee replaces or modifies TREA 17, such control equipment is subject to all of the requirements of TREA 17. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.</p> <p>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                              |
| TREA 17 | 17616    | If the Permittee replaces or modifies a scrubber that meets the requirements of TREA 17, and that change results in the construction of a new stack or a change to any stack parameter identified within Appendix B of this permit, any emissions that vent to the modified or new stack must comply with all the requirements of COMG 15. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                            |
| TREA 17 | 27350    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Volatile Organic Compounds $\geq 95$ percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 17 | 27480    | <p>Water flow rate <math>\geq 10.0</math> gallons per minute (Flow Rate Limit) as determined during the 12/1/2017 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>The Permittee must record the water flow rate at least once every 24 hours. If the recorded flow rate is below the required limit, the emissions during that time must be considered uncontrolled until the flow rate is once again above the required limit. The period of time for which the flow rate is considered below the limit must be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                          |
| TREA 17 | 27490    | <p>Pressure Drop <math>\geq 1.0</math> and <math>\leq 12.0</math> inches of water (Pressure Drop Range Limit) as determined during the 12/1/2017 performance test, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>The Permittee must record the pressure drop at least once every 24 hours. If the recorded pressure drop is outside the required range, the emissions during that time must be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range must be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| TREA 17 | 27500    | <p>Protocol for Resetting the Pressure Drop Range Limit: The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
|         | 27505    | <p>Protocol for Resetting the Flow Rate Limit: The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the established Flow Rate Limit is to be reset, the reset shall be based on the water flow rate values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the water flow rate. The Permittee must calculate the average water flow rate for each individual compliant test run. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Flow Rate Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the lowest 1-hour average water flow rate recorded during a compliant test run is between 100% and 110% of the current limit, it shall not be reset and the established Flow Rate Limit remains unchanged; or</li> <li>- if the lowest 1-hour average water flow rate recorded during a compliant test run is lower than the current limit, the limit shall be reset as the lowest 1-hour average water flow rate of a compliant test run; or</li> <li>- if the lowest 1-hour average water flow rate recorded during a compliant test run is 10% greater than the current limit, the limit shall be reset as the lowest 1-hour average water flow rate of a compliant test run.</li> </ul> <p>The new Flow Rate Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                       |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| TREA 17 | 27510    | The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit and Flow Rate Limit required by this permit. [Minn. R. 7007.1500, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TREA 17 | 27520    | Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]                                                                                                                                                                                                                                                                                                                                                                            |
| TREA 17 | 27530    | Recordkeeping of Pressure Drop and Water Flow Rate: The Permittee must record the time and date of each pressure drop reading and water flow rate reading, and whether or not the recorded values were within the ranges specified in this permit. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                    |
| TREA 17 | 27540    | Corrective Actions: The Permittee must take corrective action as soon as possible if any of the following occur:<br>- the recorded flow rate is below the required rate;<br>- the recorded pressure drop is outside the required operating range; or<br>- the scrubber or any of its components are found during the inspections to need repair.<br><br>Corrective actions must return the pressure drop and/or water flow rate to within the permitted range(s), and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the Operation and Maintenance (O & M) Plan for the scrubber. The Permittee must keep a record of the type and date of any corrective action taken for each scrubber. [40 CFR 64.7(d), Minn. R. 7017.0200] |
| TREA 17 | 27550    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee must inspect the control equipment components. The Permittee must maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 17 | 27560    | Monitoring Equipment: The Permittee must install and maintain the necessary monitoring equipment for measuring and recording pressure drop and water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 17 | 27565    | The Permittee must calibrate or replace the pressure drop and flow rate monitors at least once every 12 months and must maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 17 | 27570    | The Permittee must operate and maintain the scrubber in accordance with the O & M Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 17 | 27571    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                 |
| TREA 17 | 27572    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitoring downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                                                                                                                                                                          |
| TREA 17 | 27573    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                               |
| TREA 19 | 2        | The Permittee may not vent emission to TREA 19 and TREA 25 at the same time. [Minn. R. 7007.0800, subp.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| TREA 19 | 17610    | The Permittee must vent emissions from all fermentation equipment, including existing, modified, or new fermentation equipment, to a scrubber meeting the permit requirements of TREA 19. After treatment by TREA 19 or TREA 25, emissions may be vented to either STRU 8 (atm) or STRU 22 (RTO). [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 19 | 17615    | <p>If the Permittee replaces or modifies TREA 19, such control equipment is subject to all of the requirements of TREA 19. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.</p> <p>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 19 | 19616    | If the Permittee replaces or modifies a scrubber that meets the requirements of TREA 19, and that change results in the construction of a new stack or a change to any stack parameter identified within Appendix B of this permit, any emissions that vent to the modified or new stack must comply with all the requirements of COMG 14. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TREA 19 | 27350    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Volatile Organic Compounds $\geq 95$ percent control efficiency, or if the inlet is less than 200 ppm of VOC, then less than or equal to 20 ppm VOC. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 19 | 27480    | <p>TREA 19 Operating Scenario 1 Water flow rate <math>\geq 20.0</math> gallons per minute 3-hour average (Flow Rate Limit) when emissions are vented to RTO TREA 9 (control in series, vented to STRU 22) as determined during the 12/1/2017 performance test at STRU 22 (RTO), unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>The Permittee must record the water flow rate at least once every 24 hours. If the recorded flow rate is below the required limit, the emissions during that time must be considered uncontrolled until the flow rate is once again above the required limit. The period of time for which the flow rate is considered below the limit must be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 11, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                               |
| TREA 19 | 27481    | <p>TREA 19 Operating Scenario 2 Water flow rate <math>\geq 26.7</math> gallons per minute 3-hour average when emissions are vented to STRU 8 after control by TREA 19 (with or without venting to the CO2 skid)(STRU 8 OS1 and OS2), as determined during the 8/1/2024 performance test, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>The Permittee shall record the water flow rate at least once every 24 hours when in operation. If the recorded flow rate is below the required limit, the emissions during that time shall be considered uncontrolled until the flow rate is once again above the required limit. The period of time for which the flow rate is considered below the limit shall be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 11, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| TREA 19 | 27482    | <p>TREA 19 Operating Scenario 2 Scrubber Additive Flow Application Rate <math>\geq 1.5</math> gallons per hour (Additive Rate Limit) as determined during the 8/1/2024 performance test, whenever emissions are vented to STRU 8 after control by TREA 19 (with or without venting to the CO2 skid) (COMG 14 OS 1 and OS 2), unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>The Permittee must maintain the scrubber additive chemical type and solution concentration by weight equivalent or in excess of that utilized during the most recent performance test where compliance was demonstrated.</p> <p>The Permittee shall record the additive flow rate at least once every 24 hours when emissions are vented to the scrubber. If the recorded additive flow rate is below the required Additive Rate Limit, the acetaldehyde emissions during that time shall be considered uncontrolled until the additive flow rate is once again above the required Additive Rate Limit. The period of time for which the flow rate is below the limit shall be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| TREA 19 | 27483    | <p>Recordkeeping of Operating Scenarios: Each day of operation the Permittee must record and maintain the hours of operation in TREA 19 OS 1 or 2.</p> <p>Operating Scenario Recordkeeping:<br/>The Permittee shall keep a log showing which operating scenario it is operating under at all times. The log shall be updated whenever making a change from one operating scenario to the other. The record shall at a minimum include the day and time the switch was made and the designation of the operating scenario. The log may be hand-written or electronic. Recordkeeping for hours in this operating scenario can be found at COMG 14. [Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TREA 19 | 27490    | <p>Pressure Drop <math>\geq 1.0</math> and <math>\leq 12.0</math> inches of water (Pressure Drop Range Limit) as determined during the 12/1/2017 performance test, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>The Permittee must record the pressure drop at least once every 24 hours. If the recorded pressure drop is outside the required range, the emissions during that time must be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range must be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| TREA 19 | 27500    | <p>Protocol for Resetting the Pressure Drop Range Limit: The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
|         | 27505    | <p>Protocol for Resetting the Flow Rate Limit: The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the established Flow Rate Limit is to be reset, the reset shall be based on the water flow rate values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the water flow rate. The Permittee must calculate the average water flow rate for each individual compliant test run. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Flow Rate Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the lowest 1-hour average water flow rate recorded during a compliant test run is between 100% and 110% of the current limit, it shall not be reset and the established Flow Rate Limit remains unchanged; or</li> <li>- if the lowest 1-hour average water flow rate recorded during a compliant test run is lower than the current limit, the limit shall be reset as the lowest 1-hour average water flow rate of a compliant test run; or</li> <li>- if the lowest 1-hour average water flow rate recorded during a compliant test run is 10% greater than the current limit, the limit shall be reset as the lowest 1-hour average water flow rate of a compliant test run.</li> </ul> <p>The new Flow Rate Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                       |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| TREA 19 | 27510    | The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit and Flow Rate Limit required by this permit. [Minn. R. 7007.1500, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TREA 19 | 27520    | Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]                                                                                                                                                                                                                                                                                                                                                                            |
| TREA 19 | 27530    | Recordkeeping of Pressure Drop and Water Flow Rate: The Permittee must record the time and date of each pressure drop reading and water flow rate reading, and whether or not the recorded values were within the ranges specified in this permit. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                    |
| TREA 19 | 27540    | Corrective Actions: The Permittee must take corrective action as soon as possible if any of the following occur:<br>- the recorded flow rate is below the required rate;<br>- the recorded pressure drop is outside the required operating range; or<br>- the scrubber or any of its components are found during the inspections to need repair.<br><br>Corrective actions must return the pressure drop and/or water flow rate to within the permitted range(s), and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the Operation and Maintenance (O & M) Plan for the scrubber. The Permittee must keep a record of the type and date of any corrective action taken for each scrubber. [40 CFR 64.7(d), Minn. R. 7017.0200] |
| TREA 19 | 27550    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee must inspect the control equipment components. The Permittee must maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 19 | 27560    | Monitoring Equipment: The Permittee must install and maintain the necessary monitoring equipment for measuring and recording pressure drop and water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 19 | 27565    | The Permittee must calibrate or replace the pressure drop and flow rate monitors at least once every 12 months and must maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 19 | 27570    | The Permittee must operate and maintain the scrubber in accordance with the O & M Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 19 | 27571    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                 |
| TREA 19 | 27572    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitoring downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                                                                                                                                                                          |
| TREA 19 | 27573    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                               |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| TREA 20 | 16440    | The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee must vent emissions from all conveyors, separation equipment, and silos/bins, including existing, modified, or new conveyors, separation equipment, and silos/bins to a fabric filter meeting the permit requirements for TREA 20. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0075, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                         |
| TREA 20 | 16450    | <p>If the Permittee replaces or modifies TREA 20, such control equipment is subject to all of the requirements of TREA 20. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.</p> <p>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                            |
| TREA 20 | 17110    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter $\geq 99$ percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 20 | 17120    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron $\geq 93$ percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0070, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                  |
| TREA 20 | 17130    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron $\geq 93$ percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 20 | 17131    | The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency for Particulate Matter $\geq 80$ percent collection efficiency for the control equipment. [Minn. R. 7011.1005, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 20 | 17140    | The Permittee must operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 20 | 17150    | <p>Daily Inspections: The Permittee shall do the following, once every 24 hours:</p> <ol style="list-style-type: none"> <li>1). Inspect the fabric filter stack STRU 17 for any visible emissions during daylight hours, except during inclement weather. If there are visible emissions, the emissions shall be considered uncontrolled until there are no longer visible emissions. The period of time for which there are visible emissions shall be reported as a deviation.</li> <li>2). During inclement weather, read and record the pressure drop across the fabric filter. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</li> </ol> |
| TREA 20 | 17160    | Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                     |
| TREA 20 | 17170    | Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 20 | 17180    | The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 20 | 17190    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| TREA 20 | 17200    | <p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions are observed; or</li> <li>- the recorded pressure drop is outside the required operating range; or</li> <li>- the fabric filter or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TREA 20 | 17230    | <p>Pressure Drop <math>\geq 0.05</math> and <math>\leq 4.0</math> inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 20 | 17240    | <p><b>Protocol for Resetting the Pressure Drop Range Limit:</b> The Permittee shall conduct performance testing to measure the PM/PM10/PM2.5 emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
| TREA 20 | 17250    | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| TREA 20 | 17260    | Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]                                                                                                                                                                                                                                                                                                                                                                    |
| TREA 20 | 18330    | The Permittee shall maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed. [Minn. R. 7011.1005, subp. 1(B)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TREA 20 | 35750    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                               |
| TREA 20 | 35760    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                                                                                                                                                                     |
| TREA 20 | 35770    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                       |
| TREA 22 | 17610    | The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee must vent emissions from EQUI 23 to control equipment that meets or exceeds the requirements of TREA 22 whenever EQUI 23 operates, and operate and maintain control equipment that meets or exceeds the requirements of TREA 22 at all times that any emissions are vented to it. The Permittee must document periods of non-operation of the control equipment whenever any emissions unit vents to it. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0075, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| TREA 22 | 17615    | If the Permittee replaces or modifies TREA 22, such control equipment is subject to all of the requirements of TREA 22. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.<br><br>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                 |
| TREA 22 | 18310    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter $\geq 99$ percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 22 | 18320    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM $< 10$ micron $\geq 93$ percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) & (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0070, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                              |
| TREA 22 | 18330    | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM $< 2.5$ micron $\geq 93$ percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| TREA 22 | 18340    | <p>Visible Emissions: The Permittee must check the fabric filter stack STRU 20 for any visible emissions once each day of operation during daylight hours. If there are visible emissions, the emissions must be considered uncontrolled until there are no longer visible emissions. The period of time for which there are visible emissions must be reported as a deviation.</p> <p>During inclement weather, the Permittee must read and record the pressure drop across the fabric filter, once each day of operation. [Minn. R. 7011.0080, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 22 | 18350    | <p>Pressure Drop: Recordkeeping of Pressure Drop. The Permittee must record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit. [Minn. R. 7011.0080, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TREA 22 | 18360    | <p>Recordkeeping of Visible Emissions and Pressure Drop. The Permittee must record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. [Minn. R. 7011.0080, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TREA 22 | 18380    | <p>Corrective Actions: The Permittee must take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions are observed;</li> <li>- the recorded pressure drop is outside the required operating range; or</li> <li>- the fabric filter or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions must return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the fabric filter. The Permittee must keep a record of the type and date of any corrective action taken for each filter. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 22 | 18390    | <p>Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [Minn. R. 7011.0075, subp. 3]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 22 | 18400    | <p>The Permittee shall maintain each piece of control equipment according to the control equipment manufacturer's specifications, and shall:</p> <ul style="list-style-type: none"> <li>A. maintain an inventory of spare parts that are subject to frequent replacement, as required by the manufacturing specification or documented in records under items H and I;</li> <li>B. train staff on the operation and monitoring of control equipment and troubleshooting, and train and require staff to respond to indications of malfunctioning equipment;</li> <li>C. thoroughly inspect all control equipment at least annually, or as required by the manufacturing specification;</li> <li>D. inspect monthly, or as required by the manufacturing specification, components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts;</li> <li>E. inspect quarterly, or as required by the manufacturing specification, components that are not subject to wear including structural components, housings, ducts, and hoods;</li> <li>F. check daily, or as required by the manufacturing specification, monitoring equipment, for example: pressure gauges, chart recorders, temperature indicators, and recorders;</li> <li>G. calibrate (or replace) annually, or as required by the manufacturing specification, all monitoring equipment;</li> <li>H. maintain a record of activities conducted in items A to G consisting of the activity completed, the date the activity was completed, and any corrective action taken; and</li> <li>I. maintain a record of parts replaced, repaired, or modified for the previous five years. [Minn. R. 7011.0075, subp. 2, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</li> </ul> |

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| TREA 22 | 18430    | <p>Pressure Drop <math>\geq 0.01</math> and <math>\leq 4.0</math> inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>If the recorded pressure drop is outside the required range, the emissions during that time must be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range must be reported as a deviation. The Permittee must record the pressure drop at least once every 24 hours when in operation. [Minn. R. 7011.0080, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TREA 22 | 18440    | <p>Protocol for Resetting the Pressure Drop Range Limit: The Permittee shall conduct performance testing to measure the PM/PM10/PM2.5 emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)]</p> |
| TREA 22 | 18450    | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 22 | 18460    | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TREA 25 | 3        | <p>The Permittee may not vent emission to TREA 19 and TREA 25 at the same time. [Minn. R. 7007.0800, subp.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 25 | 3090     | <p>The Permittee is authorized to construct and operate TREA 25, meeting the following design requirements: a scrubber operating between 2.0 and 12.0 inches of pressure and 22.0 gal/min water flow.</p> <p>The authorization to construct expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The control equipment must meet all applicable permit requirements. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|         |          | The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TREA 25 | 3100     | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|         |          | The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.                                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 25 | 3110     | The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|         |          | The Permittee must vent emissions from all fermentation equipment, including existing, modified, or new fermentation equipment, to a scrubber meeting the permit requirements for TREA 25. After treatment by TREA 19 or TREA 25, emissions may be vented to either STRU 8 (atm) or STRU 22 (RTO). [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |
| TREA 25 | 17610    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|         |          | If the Permittee replaces or modifies TREA 25, such control equipment is subject to all of the requirements of TREA 25. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|         |          | If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                                                                                                                                     |
| TREA 25 | 17615    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|         |          | If the Permittee replaces or modifies a scrubber that meets the requirements of TREA 25, and that change results in the construction of a new stack or a change to any stack parameter identified within Appendix B of this permit, any emissions that vent to the modified or new stack must comply with all the requirements of COMG 14. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                              |
| TREA 25 | 17616    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|         |          | The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Volatile Organic Compounds $\geq$ 95 percent control efficiency, or if the inlet is less than 200 ppm of VOC, then less than or equal to 20 ppm VOC. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                    |
| TREA 25 | 27350    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|         |          | TREA 25 Operating Scenario 1 - Water flow rate $\geq$ 20.0 gallons per minute 3-hour average (Flow Rate Limit) when emissions are vented to RTO TREA 9 (control in series, vented to STRU 22); as determined during testing at STRU 22, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.                                                                                                                                                                                                                                                                                                                                                   |
|         |          | The Permittee must record the water flow rate at least once every 24 hours. If the recorded flow rate is below the required limit, the emissions during that time must be considered uncontrolled until the flow rate is once again above the required limit. The period of time for which the flow rate is considered below the limit must be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 11, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                   |
| TREA 25 | 27480    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| TREA 25 | 27484    | <p>TREA 25 Operating Scenario 2 - Water flow rate <math>\geq 37.8</math> gallons per minute 3-hour average when emissions are vented to STRU 8 after control by TREA 19 (with or without venting to the CO2 skid) (COMG 14 OS 3 and OS 4), unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>The Permittee shall record the water flow rate at least once each day of operation. If the recorded flow rate is below the required limit, the emissions during that time shall be considered uncontrolled until the flow rate is once again above the required limit. The period of time for which the flow rate is considered below the limit shall be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 11, Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 25 | 27485    | <p>TREA 25 Operating Scenario 2 Scrubber Additive Flow Application Rate <math>\geq 2.8</math> gallons per hour (Additive Rate Limit) or as determined during the most recent performance test, whenever emissions are venting to TREA 25, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>The Permittee must maintain the scrubber additive chemical type and solution concentration by weight equivalent or in excess of that utilized during the most recent performance test where compliance was demonstrated.</p> <p>The Permittee shall record the additive flow rate at least once each day of operation when emissions are vented to the scrubber. If the recorded additive flow rate is below the required Additive Rate Limit, the acetaldehyde emissions during that time shall be considered uncontrolled until the additive flow rate is once again above the required Additive Rate Limit. The period of time for which the flow rate is below the limit shall be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]</p> |
| TREA 25 | 27486    | <p>Recordkeeping of Operating Scenarios: Each day of operation the Permittee must record and maintain the hours of operation in TREA 25 OS 1 or 2.</p> <p>Operating Scenario Recordkeeping:<br/>The Permittee shall keep a log showing which operating scenario it is operating under at all times. The log shall be updated whenever making a change from one operating scenario to the other. The record shall at a minimum include the day and time the switch was made and the designation of the operating scenario. The log may be hand-written or electronic. Recordkeeping for hours in this operating scenario can be found at COMG 14. [Minn. R. 7007.0800, subp. 11, Minn. R. 7007.0800, subps. 4-5]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 25 | 27490    | <p>Pressure Drop <math>\geq 1.0</math> and <math>\leq 12.0</math> inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below.</p> <p>The Permittee must record the pressure drop at least once every 24 hours. If the recorded pressure drop is outside the required range, the emissions during that time must be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range must be reported as a deviation, as defined by Minn. R. 7007.0100, subp. 8a. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| TREA 25 | 27500    | <p>Protocol for Resetting the Pressure Drop Range Limit: The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the established Pressure Drop Range Limit is to be reset, the reset shall be based on the pressure drop values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the pressure drop. The Permittee must calculate the average pressure drop based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Pressure Drop Range Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average pressure drop recorded during the test is within the established range, it shall not be reset and the established values remain the Pressure Drop Range Limit; or</li> <li>- if the 3-hour average pressure drop is below the minimum value of the established range, the new minimum value shall be reset to 50% of the average pressure drop from the test. The maximum value shall be decreased by the same amount to maintain the pressure drop range; or</li> <li>- if the 3-hour average pressure drop is above the maximum value of the established range, the new maximum value shall be reset as the average pressure drop from the test plus 10%. The minimum value shall be increased by the same amount to maintain the pressure drop range.</li> </ul> <p>The pressure drop range is equal to the maximum value (upper bound) minus the minimum value (lower bound).</p> <p>Ongoing compliance with the Pressure Drop Range Limit will be determined using the same data acquisition and reduction as was used during the performance test. The new Pressure Drop Range Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and</p> |
|         | 27505    | <p>Protocol for Resetting the Flow Rate Limit: The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the established Flow Rate Limit is to be reset, the reset shall be based on the water flow rate values recorded during the most recent MPCA-approved performance test where compliance was demonstrated.</p> <p>During the performance test, the Permittee must continuously monitor the water flow rate. The Permittee must calculate the average water flow rate for each individual compliant test run. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The established Flow Rate Limit shall be reset as follows:</p> <ul style="list-style-type: none"> <li>- if the lowest 1-hour average water flow rate recorded during a compliant test run is between 100% and 110% of the current limit, it shall not be reset and the established Flow Rate Limit remains unchanged; or</li> <li>- if the lowest 1-hour average water flow rate recorded during a compliant test run is lower than the current limit, the limit shall be reset as the lowest 1-hour average water flow rate of a compliant test run; or</li> <li>- if the lowest 1-hour average water flow rate recorded during a compliant test run is 10% greater than the current limit, the limit shall be reset as the lowest 1-hour average water flow rate of a compliant test run.</li> </ul> <p>The new Flow Rate Limit shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                       |



| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| TREA 25 | 27510    | The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Pressure Drop Range Limit and Flow Rate Limit required by this permit. [Minn. R. 7007.1500, subp. 1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TREA 25 | 27520    | Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]                                                                                                                                                                                                                                                                                                                                                                            |
| TREA 25 | 27530    | Recordkeeping of Pressure Drop and Water Flow Rate: The Permittee must record the time and date of each pressure drop reading and water flow rate reading, and whether or not the recorded values were within the ranges specified in this permit. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                    |
| TREA 25 | 27540    | Corrective Actions: The Permittee must take corrective action as soon as possible if any of the following occur:<br>- the recorded flow rate is below the required rate;<br>- the recorded pressure drop is outside the required operating range; or<br>- the scrubber or any of its components are found during the inspections to need repair.<br><br>Corrective actions must return the pressure drop and/or water flow rate to within the permitted range(s), and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the Operation and Maintenance (O & M) Plan for the scrubber. The Permittee must keep a record of the type and date of any corrective action taken for each scrubber. [40 CFR 64.7(d), Minn. R. 7017.0200] |
| TREA 25 | 27550    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee must inspect the control equipment components. The Permittee must maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 25 | 27560    | Monitoring Equipment: The Permittee must install and maintain the necessary monitoring equipment for measuring and recording pressure drop and water flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TREA 25 | 27565    | The Permittee must calibrate or replace the pressure drop and flow rate monitors at least once every 12 months and must maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 25 | 27570    | The Permittee must operate and maintain the scrubber in accordance with the O & M Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 25 | 27571    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                 |
| TREA 25 | 27572    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitoring downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                                                                                                                                                                          |
| TREA 25 | 27573    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                               |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| TREA 26 | 3090     | <p>The Permittee is authorized to construct and operate TREA 26, meeting the following design requirements: a baghouse operating between 0.1 and 6 inches of pressure.</p> <p>The authorization to start construction of this equipment expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The control equipment must meet all applicable permit requirements. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                            |
| TREA 26 | 3100     | <p>The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.</p> <p>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 26 | 3110     | <p>The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.</p> <p>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 26 | 16440    | <p>The control equipment is listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee must vent emissions from all conveyors, elevators and milling equipment, including existing, modified, or new conveyors, elevators and milling equipment, to a fabric filter meeting the permit requirements of TREA 26. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0075, subp. 1, Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                        |
| TREA 26 | 16450    | <p>If the Permittee replaces or modifies TREA 26, such control equipment is subject to all of the requirements of TREA 26. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.</p> <p>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                            |
| TREA 26 | 17110    | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter <math>\geq 99</math> percent control efficiency. [Minn. R. 7011.0070, subp. 1(A), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 26 | 17120    | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM &lt; 10 micron <math>\geq 93</math> percent control efficiency. [Minn. R. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. R. 7011.0070, subp. 1(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                         |
| TREA 26 | 17130    | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM &lt; 2.5 micron <math>\geq 93</math> percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 26 | 17140    | <p>The Permittee must operate and maintain the fabric filter in accordance with the Operation and Maintenance (O &amp; M) Plan. The Permittee must keep copies of the O &amp; M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 26 | 17150    | <p>Daily Inspections: The Permittee shall do the following, once every 24 hours:</p> <ol style="list-style-type: none"> <li>1). Inspect the fabric filter stack STRU 58 for any visible emissions during daylight hours, except during inclement weather. If there are visible emissions, the emissions shall be considered uncontrolled until there are no longer visible emissions. The period of time for which there are visible emissions shall be reported as a deviation.</li> <li>2). During inclement weather, read and record the pressure drop across the fabric filter. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</li> </ol> |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TREA 26 | 17160    | Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.9(b), Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                           |
| TREA 26 | 17170    | Pressure Drop: Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 26 | 17180    | The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TREA 26 | 17190    | Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 26 | 17200    | Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: <ul style="list-style-type: none"> <li>- visible emissions are observed; or</li> <li>- the recorded pressure drop is outside the required operating range; or</li> <li>- the fabric filter or any of its components are found during the inspections to need repair.</li> </ul> Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [40 CFR 64.7(d), Minn. R. 7017.0200]                                                                                                                                           |
| TREA 26 | 17270    | Pressure Drop $\geq 0.1$ and $\leq 6.0$ inches of water, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the follow up compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. <p>If the recorded pressure drop is outside the required range, the emissions during that time shall be considered uncontrolled until the pressure drop is once again within the required range. The period of time for which the pressure drop is considered out of range shall be reported as a deviation. [40 CFR 64.3, Minn. R. 7011.0080, Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| TREA 26 | 35750    | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 26 | 35760    | As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 26 | 35770    | The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TREA 27 | 3090     | <p>The Permittee is authorized to construct and operate TREA 27, meeting the following design requirements: a regenerative thermal oxidizer with a combustion temperature of 1634 degrees F, a residence time of 4.2 seconds, and a burner capacity of 30 MMBtu/hr.</p> <p>The authorization to start construction of this equipment expires 5 years after issuance of Air Emissions Permit No. 04500049-101 (July 25, 2029). The control equipment must meet all applicable permit requirements. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>    |
| TREA 27 | 3100     | <p>The Permittee shall submit a notification of the date construction began: Due 30 calendar days after Date of Construction Start (or reconstruction). Submit the name and number of the Subject Item and the date construction began.</p> <p>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]</p>                                                                                                                                                                                                                                                                                                                                           |
| TREA 27 | 3110     | <p>The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. Submit the name and number of the Subject Item and the date of startup. Startup is as defined in Minn. R. 7005.0100, subp. 42a.</p> <p>The notification shall be submitted electronically on Form CS-02. [Minn. R. 7007.0800, subp. 16(L)]</p>                                                                                                                                                                                                                                                                                                              |
| TREA 27 | 16440    | <p>The Permittee must vent emissions from all dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, including existing, modified, or new dryers/ovens, fermentation equipment, material handling equipment, and separation equipment, to a thermal oxidizer meeting the permit requirements for TREA 27. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                      |
| TREA 27 | 16450    | <p>If the Permittee replaces or modifies TREA 27, such control equipment is subject to all of the requirements of TREA 27. Prior to making such a change, the Permittee must apply for and obtain the appropriate permit amendment, as applicable.</p> <p>If no amendment is needed for the replacement, the Permittee must submit an electronic notice to the Agency using Form CR-05. The notice must be received by the Agency seven working days prior to the commencement/start of replacement. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p> |
| TREA 27 | 19130    | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Volatile Organic Compounds <math>\geq</math> 95 percent control efficiency (VOC as mass) or less than or equal to 10 parts per million. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                       |
| TREA 27 | 19131    | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Carbon Monoxide <math>\geq</math> 90 percent control efficiency by RTO or less than or equal to 100 parts per million. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) &amp; (B), Minn. R. 7007.0800, subp. 2(A), Minn. Stat. 116.07, subd. 4a(a), Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                        |
| TREA 27 | 19132    | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for Particulate Matter <math>\geq</math> 80.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                    |
| TREA 27 | 19133    | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM &lt; 10 micron <math>\geq</math> 80.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                     |
| TREA 27 | 19134    | <p>The Permittee must operate and maintain control equipment such that it achieves a control efficiency for PM &lt; 2.5 micron <math>\geq</math> 80.0 percent control efficiency. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]</p>                                                                                                                                                                                                                                                                                                                    |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TREA 27 | 19150    | Temperature $\geq$ 1634 degrees Fahrenheit 3-hour rolling average at the combustion chamber outlet (Minimum Temperature Limit), unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, as detailed below. If the recorded 3-hour rolling average temperature is below the Minimum Temperature Limit, the VOC used during that time must be considered uncontrolled until the average temperature is above the Minimum Temperature Limit. This must be reported as a deviation. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R.                                                                                                                                                                                                       |
| TREA 27 | 19160    | The Permittee must operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TREA 27 | 19170    | Temperature Monitoring: The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 4.5 degrees Fahrenheit. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a. [40 CFR 64.3(b)(4)(ii), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                              |
| TREA 27 | 19180    | Daily Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain a written record of the daily verifications. [40 CFR 64.3(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 27 | 19190    | Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required. [40 CFR 64.7(b), Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TREA 27 | 19200    | The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber. [40 CFR 64.9(b), Minn. R. 7017.0200, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 27 | 19210    | Annual Calibration: The Permittee shall calibrate the temperature monitor at least once every 12 months and shall maintain a written record of the calibration and any action resulting from the calibration. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TREA 27 | 19220    | Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TREA 27 | 19230    | Annual Inspection: At least once per calendar year, the Permittee shall conduct an internal inspection of the control device that includes all operating systems of the control device. The Permittee shall maintain a written record of the inspection and any action resulting from the inspection. [40 CFR 64.3, Minn. R. 7017.0200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TREA 27 | 19240    | For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee must use either one of the following when completing calculations as required elsewhere in this permit:<br>a. The control efficiency limit specified in this permit for this equipment (95% VOC, 90% CO, 80.0% PM, PM10, and PM2.5); or<br>b. The control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] |

| SI Id   | Sequence | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TREA 27 | 19250    | <p>Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken. [40 CFR 64.7(d), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TREA 27 | 19280    | <p>Protocol for Re-Setting the Minimum Temperature Limit: The Permittee shall conduct performance testing to measure the VOC emission rate as required elsewhere in this permit. If the Minimum Temperature Limit is to be re-set, the re-set shall be based on the average temperature values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. During the performance test, the Permittee must continuously monitor the temperature in the combustion chamber. The Permittee must calculate the average temperature from the combustion chamber by reducing the temperature data to an average temperature based on the average exhibited over all three compliant test runs. Downtime of 15 minutes or more is not to be included as operating time.</p> <p>The Minimum Temperature Limit shall be re-set as follows:</p> <ul style="list-style-type: none"> <li>- if the 3-hour average temperature recorded during the test is within 25 deg F of the limit, it shall not be re-set and the established Minimum Temperature Limit remains unchanged; or</li> <li>- if the 3-hour average temperature is more than 25 deg F greater or less than the established limit, it shall be re-set as the average temperature of the performance test. Ongoing compliance with the temperature limit will be determined using the same data acquisition and reduction as was used during the performance test.</li> </ul> <p>The new Minimum Temperature Limit determined using this Protocol shall be effective upon receipt of the follow up compliance letter that approves the test results and shall be incorporated into the permit when the permit is next amended. [Minn. R. 7017.2025, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn.</p> |
| TREA 27 | 19290    | <p>The Permittee must apply for and obtain a major permit amendment if the Permittee wishes to deviate from the Protocol for Re-setting the Minimum Temperature Limit required by this permit. [Minn. R. 7007.1500, subp. 1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TREA 27 | 19300    | <p>Notwithstanding the Protocol detailed above, the MPCA reserves the right to set operational limits and requirements as allowed under Minn. R. 7017.2025. If the MPCA sets limits, the new limits shall be implemented upon receipt of the follow up compliance letter that notifies the Permittee of preliminary approval. The limits set according to Minn. R. 7017.2025 are final upon issuance of a permit amendment incorporating the change. [Minn. R. 7017.2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TREA 27 | 35750    | <p>Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing combustion chamber temperature limit, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. [40 CFR 64.7(e), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TREA 27 | 35760    | <p>As required by 40 CFR 64.9(a)(2), for the Semi-Annual Deviations Report required by this permit and/or the Notification of Deviations Endangering Human Health and the Environment required by this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents. [40 CFR 64.9(a)(2), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TREA 27 | 35770    | <p>The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b), Minn. R. 7017.0200]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

### **Attachment 3 - CAM Plans**

**Compliance Assurance Monitoring Plan**  
**Poet Biorefining- Preston, LLC**  
**Preston, Minnesota**

**April 2026**



**CAM Unit Summary:**

| <b>Stack ID</b> | <b>Control Units*</b>                    | <b>Pollutant(s)</b>                            |
|-----------------|------------------------------------------|------------------------------------------------|
| STRU 8          | TREA 19 Scrubber<br>TREA 25 Scrubber     | VOC                                            |
| STRU 13         | TREA 17 Scrubber                         | VOC                                            |
| STRU 33         | TREA 15 Fabric Filter                    | PM/PM <sub>10</sub>                            |
| STRU 29         | TREA 7 Fabric Filter                     | PM/PM <sub>10</sub> /PM <sub>2.5</sub>         |
| STRU 30         | TREA 8 Fabric Filter                     | PM/PM <sub>10</sub> /PM <sub>2.5</sub>         |
| STRU 31         | TREA 9 Fabric Filter                     | PM/PM <sub>10</sub> /PM <sub>2.5</sub>         |
| STRU 32         | TREA 10 Fabric Filter                    | PM/PM <sub>10</sub> /PM <sub>2.5</sub>         |
| STRU 58         | TREA 26 Fabric Filter                    | PM/PM <sub>10</sub> /PM <sub>2.5</sub>         |
| STRU 23         | TREA 11 Fabric Filter                    | PM/PM <sub>10</sub>                            |
| STRU 16         | TREA 6 Flaring                           | VOC                                            |
| STRU 22         | TREA 14 Regenerative<br>Thermal Oxidizer | PM/PM <sub>10</sub> /PM <sub>2.5</sub> /CO/VOC |
| STRU 57         | TREA 27 Regenerative<br>Thermal Oxidizer | PM/PM <sub>10</sub> /PM <sub>2.5</sub> /CO/VOC |

\*No units are large PSEUs

# **Compliance Assurance Monitoring Plan**

## **Poet Biorefining - Preston**

### **Grain Receiving #1**

#### **TREA 15 Fabric Filter**

The grain receiving #1 system has a fabric filter for the control of particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

#### **I. Background**

##### **A. Emissions Unit**

Description: Grain Receiving #1 Processes

Identification: EQUIs 1, 2, 3, 15, 16, 47, 48, 49, 50, 51, 52, 180, 181, 182, 183, 184, 185, 186 & 187

Facility: Poet Biorefining- Preston,  
Preston, Minnesota

##### **B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Minn R. 7011.0715, 40 CFR 52.21

PM emission limit: 0.30 lbs/hr and  $\geq 79.2\%$  control efficiency

PM<sub>10</sub> emission limit: 0.30 lbs/hr and  $\geq 74.4\%$  control efficiency

PM<sub>2.5</sub> emission limit: 0.30 lbs/hr and  $\geq 74.4\%$  control efficiency

Monitoring requirements: Pressure drop across the baghouse with daily recordkeeping, visible emissions < 10% opacity and periodic inspections

##### **C. Control Technology**

One (1) fabric filter

#### **II. Monitoring Approach**

##### **A. Indicator**

Visible emissions and pressure drop will be used as the indicator for particulate matter emissions.

##### **B. Measurement Approach**

Visible emissions and pressure drop will be observed and recorded once every 24-hours during daylight hours during operation.

##### **C. Indicator Range**

The presence of visible emissions will be the indicator.

$\geq 0.05$  inches of water column and  $\leq 4$  inches of water column.

##### **D. QIP Threshold**

In any six month reporting period the Quality Improvement Plan (QIP) thresholds are:

- Nine (9) reported excursions of the visible emissions opacity limit or pressure drop range on the fabric filter

## **Compliance Assurance Monitoring Plan Poet Biorefining - Preston**

### **E. Performance Criteria**

#### **Data representativeness:**

A pressure drop outside of the stated range or visible emissions may indicate a problem, such as:

- a tear or other failure of one or more bags within the fabric filter.
- overloading of the bags; or
- excess flow rate.

These conditions may lead to excess emissions of particulate matter.

#### **Verification of operational status:**

Pressure Drop – The pressure drop gauge will be maintained in accordance manufacturer's O&M procedures.

On-site personnel will be trained to detect normal and visible emissions.

#### **QA/QC practices and criteria:**

The pressure drop gauge will be calibrated annually.

Visible emission training will be reviewed annually.

When a reportable excursion occurs corrective action will initiated as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, a visible emission reading will be taken to confirm that the corrective action has been effective.

#### **Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the visible emission readings once per day.

### **III. Justification**

#### **A. Background**

The facility is a grain receiving system which is equipped with a fabric filter for the control of PM, PM10, and PM2.5.

#### **B. Rationale for Selection of Performance Indicator**

Visible emissions and/or pressure drop outside the allowable range may indicate reduced performance of the fabric filter. Therefore, visible emissions and pressure drop are used as performance indicators.

#### **C. Rationale for Selection of Indicator Level**

Visible emissions and pressure drop were selected because they can detect problems with the baghouse that might not trigger other indicators.

# **Compliance Assurance Monitoring Plan**

## **Poet Biorefining - Preston**

### **Grain Receiving #2**

#### **TREA 11 Fabric Filter**

The grain receiving #2 system has a fabric filter for the control of particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

#### **I. Background**

##### **A. Emissions Unit**

Description: Grain Receiving #1 Processes

Identification: EQUIs 28, 29, 30, 31, 32, 33, 188, 189, 190, 191

Facility: Poet Biorefining- Preston,  
Preston, Minnesota

##### **B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Minn R. 7011.0715, 40 CFR 52.21

PM emission limit: 0.41 lbs/hr and  $\geq 79.2\%$  control efficiency

PM<sub>10</sub> emission limit: 0.41 lbs/hr and  $\geq 74.4\%$  control efficiency

PM<sub>2.5</sub> emission limit: 0.41 lbs/hr and  $\geq 74.4\%$  control efficiency

Monitoring requirements: Pressure drop across the baghouse with daily recordkeeping, visible emissions < 0% opacity and periodic inspections

##### **C. Control Technology**

One (1) fabric filter

#### **II. Monitoring Approach**

##### **A. Indicator**

Any visible emissions and pressure drop will be used as the indicator for particulate matter emissions.

##### **B. Measurement Approach**

Visible emissions and pressure drop will be observed and recorded once every 24-hours during daylight hours during operation.

##### **C. Indicator Range**

The presence of visible emissions will be the indicator.

$\geq 0.05$  inches of water column and  $\leq 4$  inches of water column.

##### **D. QIP Threshold**

In any six month reporting period the Quality Improvement Plan (QIP) thresholds are:

- Nine (9) reported excursions of the visible emissions opacity limit or pressure drop range on the fabric filter

## **Compliance Assurance Monitoring Plan**

### **Poet Biorefining - Preston**

#### **E. Performance Criteria**

##### **Data representativeness:**

A pressure drop outside of the stated range or visible emissions may indicate a problem, such as:

- a tear or other failure of one or more bags within the fabric filter.
- overloading of the bags; or
- excess flow rate.

These conditions may lead to excess emissions of particulate matter.

##### **Verification of operational status:**

Pressure Drop – The pressure drop gauge will be maintained in accordance manufacturer's O&M procedures.

On-site personnel will be trained to detect normal and visible emissions.

##### **QA/QC practices and criteria:**

The pressure drop gauge will be calibrated annually.

Visible emission training will be reviewed annually.

When a reportable excursion occurs corrective action will initiated as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, a visible emission reading will be taken to confirm that the corrective action has been effective.

##### **Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the visible emission readings once per day.

#### **III. Justification**

##### **A. Background**

The facility is a grain receiving system which is equipped with a fabric filter for the control of PM, PM10, and PM2.5.

##### **B. Rationale for Selection of Performance Indicator**

Visible emissions and/or pressure drop outside the allowable range may indicate reduced performance of the fabric filter. Therefore, visible emissions and pressure drop are used as performance indicators.

##### **C. Rationale for Selection of Indicator Level**

Visible emissions and pressure drop were selected because they can detect problems with the baghouse that might not trigger other indicators.

# **Compliance Assurance Monitoring Plan**

## **Poet Biorefining - Preston**

### **Hammermill 1 & Conveyors**

#### **TREA 7 Fabric Filter**

Hammermill #1 (EQUIs 24, 96, 97, 192/233, 193, 220) has a fabric filter for the control of particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

#### **I. Background**

##### **A. Emissions Unit**

Description: Hammermill #1 & Conveyors

Identification: EQUIs 24, 96, 97, 192/233, 193, 220

Facility: Poet Biorefining- Preston,  
Preston, Minnesota

##### **B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Minn R. 7011.0715, 40 CFR 52.21

PM emission limit: 0.41 lbs/hr and 99% control efficiency

PM<sub>10</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

PM<sub>2.5</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

Monitoring requirements: Pressure drop across the baghouse with daily recordkeeping and visible emissions < 20% opacity

##### **C. Control Technology**

One (1) fabric filter

#### **II. Monitoring Approach**

##### **A. Indicator**

Visible emissions and pressure drop will be used as the indicator for particulate matter emissions.

##### **B. Measurement Approach**

Visible emissions and pressure drop will be observed and recorded once every 24-hours during daylight hours during operation.

##### **C. Indicator Range**

The presence of visible emissions will be the indicator.

≥ 0.05 inches of water column and ≤ 4 inches of water column.

##### **D. QIP Threshold**

In any six month reporting period the Quality Improvement Plan (QIP) thresholds are:

- Nine (9) reported excursions of the visible emissions opacity limit or pressure drop range on the fabric filter

## **Compliance Assurance Monitoring Plan Poet Biorefining - Preston**

### **E. Performance Criteria**

#### **Data representativeness:**

A pressure drop outside of the stated range or visible emissions may indicate a problem, such as:

- a tear or other failure of one or more bags within the fabric filter.
- overloading of the bags; or
- excess flow rate.

These conditions may lead to excess emissions of particulate matter.

#### **Verification of operational status:**

Pressure Drop – The pressure drop gauge will be maintained in accordance manufacturer's O&M procedures.

On-site personnel will be trained to detect normal and visible emissions.

#### **QA/QC practices and criteria:**

The pressure drop gauges will be calibrated annually.

Visible emission training will be reviewed annually.

When a reportable excursion occurs, corrective action will initiate as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, a visible emission reading will be taken to confirm that the corrective action has been effective.

#### **Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the visible emission readings once per day.

### **III. Justification**

#### **A. Background**

The unit is a hammermill which is equipped with a fabric filter for the control of PM, PM10, and PM2.5.

#### **B. Rationale for Selection of Performance Indicator**

Visible emissions and/or pressure drop outside the allowable range may indicate reduced performance of the fabric filter. Therefore, visible emissions and pressure drop are used as performance indicators.

#### **C. Rationale for Selection of Indicator Level**

Visible emissions and pressure drop were selected because they can detect problems with the baghouse that might not trigger other indicators.

**Compliance Assurance Monitoring Plan  
Poet Biorefining - Preston**

**Hammermill 2 & Conveyors  
TREA 8 Fabric Filter**

Hammermill #2 (EQUIs 25, 96, 97, 192/233, 193 & 221) has a fabric filter for the control of particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

**I. Background**

**A. Emissions Unit**

Description: Hammermill #2 & Conveyors

Identification: EQUIs 25, 96, 97, 192/233, 193 & 221

Facility: Poet Biorefining- Preston,  
Preston, Minnesota

**B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Minn R. 7011.0715, 40 CFR 52.21

PM emission limit: 0.41 lbs/hr and 99% control efficiency

PM<sub>10</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

PM<sub>2.5</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

Monitoring requirements: Pressure drop across the baghouse with daily recordkeeping and visible emissions < 20% opacity

**C. Control Technology**

One (1) fabric filter

**II. Monitoring Approach**

**A. Indicator**

Visible emissions and pressure drop will be used as the indicator for particulate matter emissions.

**B. Measurement Approach**

Visible emissions and pressure drop will be observed and recorded once every 24-hours during daylight hours during operation.

**C. Indicator Range**

The presence of visible emissions will be the indicator.

≥ 0.05 inches of water column and ≤ 4 inches of water column.

**D. QIP Threshold**

In any six-month reporting period the Quality Improvement Plan (QIP) thresholds are:

- Nine (9) reported excursions of the visible emissions opacity limit or pressure drop range on the fabric filter



## **Compliance Assurance Monitoring Plan Poet Biorefining - Preston**

### **E. Performance Criteria**

#### **Data representativeness:**

A pressure drop outside of the stated range or visible emissions may indicate a problem, such as:

- a tear or other failure of one or more bags within the fabric filter.
- overloading of the bags; or
- excess flow rate.

These conditions may lead to excess emissions of particulate matter.

#### **Verification of operational status:**

Pressure Drop – The pressure drop gauge will be maintained in accordance manufacturer's O&M procedures.

On-site personnel will be trained to detect normal and visible emissions.

#### **QA/QC practices and criteria:**

The pressure drop gauges will be calibrated annually.

Visible emission training will be reviewed annually.

When a reportable excursion occurs, corrective action will initiate as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, a visible emission reading will be taken to confirm that the corrective action has been effective.

#### **Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the visible emission readings once per day.

### **III. Justification**

#### **A. Background**

The unit is a hammermill which is equipped with a fabric filter for the control of PM, PM10, and PM2.5.

#### **B. Rationale for Selection of Performance Indicator**

Visible emissions and/or pressure drop outside the allowable range may indicate reduced performance of the fabric filter. Therefore, visible emissions and pressure drop are used as performance indicators.

#### **C. Rationale for Selection of Indicator Level**

Visible emissions and pressure drop were selected because they can detect problems with the baghouse that might not trigger other indicators.

**Compliance Assurance Monitoring Plan  
Poet Biorefining - Preston**

**Hammermill #3 & Conveyors  
TREA 9 Fabric Filter**

Hammermill #3 (EQUI 26, 96, 97, 192/233, 193, & 222) has a fabric filter for the control of particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

**I. Background**

**A. Emissions Unit**

Description: Hammermill #3 & Conveyors

Identification: EQUI 26, 96, 97, 192/233, 193, 222

Facility: Poet Biorefining- Preston,  
Preston, Minnesota

**B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Minn R. 7011.0715, 40 CFR 52.21

PM emission limit: 0.41 lbs/hr and 99% control efficiency

PM<sub>10</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

PM<sub>2.5</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

Monitoring requirements: Pressure drop across the baghouse with daily recordkeeping and visible emissions < 20% opacity

**C. Control Technology**

One (1) fabric filter

**II. Monitoring Approach**

**A. Indicator**

Visible emissions and pressure drop will be used as the indicator for particulate matter emissions.

**B. Measurement Approach**

Visible emissions and pressure drop will be observed and recorded once every 24-hours during daylight hours during operation.

**C. Indicator Range**

The presence of visible emissions will be the indicator.

≥ 0.05 inches of water column and ≤ 4 inches of water column.

**D. QIP Threshold**

In any six month reporting period the Quality Improvement Plan (QIP) thresholds are:

- Nine (9) reported excursions of the visible emissions opacity limit or pressure drop range on the fabric filter

## **Compliance Assurance Monitoring Plan Poet Biorefining - Preston**

### **E. Performance Criteria**

#### **Data representativeness:**

A pressure drop outside of the stated range or visible emissions may indicate a problem, such as:

- a tear or other failure of one or more bags within the fabric filter.
- overloading of the bags; or
- excess flow rate.

These conditions may lead to excess emissions of particulate matter.

#### **Verification of operational status:**

Pressure Drop – The pressure drop gauges will be maintained in accordance manufacturer's O&M procedures.

On-site personnel will be trained to detect normal and visible emissions.

#### **QA/QC practices and criteria:**

The pressure drop gauges will be calibrated annually.

Visible emission training will be reviewed annually.

When a reportable excursion occurs, corrective action will initiate as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, a visible emission reading will be taken to confirm that the corrective action has been effective.

#### **Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the visible emission readings once per day.

### **III. Justification**

#### **A. Background**

The unit is a hammermill which is equipped with a fabric filter for the control of PM, PM10, and PM2.5.

#### **B. Rationale for Selection of Performance Indicator**

Visible emissions and/or pressure drop outside the allowable range may indicate reduced performance of the fabric filter. Therefore, visible emissions and pressure drop are used as performance indicators.

#### **C. Rationale for Selection of Indicator Level**

Visible emissions and pressure drop were selected because they can detect problems with the baghouse that might not trigger other indicators.

**Compliance Assurance Monitoring Plan  
Poet Biorefining - Preston**

**Hammermill #4 & Conveyors  
TREA 10 Fabric Filter**

Hammermill #3 (EQUI 27, 96, 97, 192/233, 193, 223) has a fabric filter for the control of particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

**I. Background**

**A. Emissions Unit**

Description: Hammermill #3 & Conveyors

Identification: EQUI 27, 96, 97, 192/233, 193, 223

Facility: Poet Biorefining- Preston,  
Preston, Minnesota

**B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Minn R. 7011.0715, 40 CFR 52.21

PM emission limit: 0.41 lbs/hr and 99% control efficiency

PM<sub>10</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

PM<sub>2.5</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

Monitoring requirements: Pressure drop across the baghouse with daily recordkeeping and visible emissions < 20% opacity

**C. Control Technology**

One (1) fabric filter

**II. Monitoring Approach**

**A. Indicator**

Visible emissions and pressure drop will be used as the indicator for particulate matter emissions.

**B. Measurement Approach**

Visible emissions and pressure drop will be observed and recorded once every 24-hours during daylight hours during operation.

**C. Indicator Range**

The presence of visible emissions will be the indicator.

≥ 0.05 inches of water column and ≤ 4 inches of water column.

**D. QIP Threshold**

In any six month reporting period the Quality Improvement Plan (QIP) thresholds are:

- Nine (9) reported excursions of the visible emissions opacity limit or pressure drop range on the fabric filter

## **Compliance Assurance Monitoring Plan Poet Biorefining - Preston**

### **E. Performance Criteria**

#### **Data representativeness:**

A pressure drop outside of the stated range or visible emissions may indicate a problem, such as:

- a tear or other failure of one or more bags within the fabric filter.
- overloading of the bags; or
- excess flow rate.

These conditions may lead to excess emissions of particulate matter.

#### **Verification of operational status:**

Pressure Drop – The pressure drop gauges will be maintained in accordance manufacturer's O&M procedures.

On-site personnel will be trained to detect normal and visible emissions.

#### **QA/QC practices and criteria:**

The pressure drop gauges will be calibrated annually.

Visible emission training will be reviewed annually.

When a reportable excursion occurs, corrective action will initiate as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, a visible emission reading will be taken to confirm that the corrective action has been effective.

#### **Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the visible emission readings once per day.

### **III. Justification**

#### **A. Background**

The unit is a hammermill which is equipped with a fabric filter for the control of PM, PM10, and PM2.5.

#### **B. Rationale for Selection of Performance Indicator**

Visible emissions and/or pressure drop outside the allowable range may indicate reduced performance of the fabric filter. Therefore, visible emissions and pressure drop are used as performance indicators.

#### **C. Rationale for Selection of Indicator Level**

Visible emissions and pressure drop were selected because they can detect problems with the baghouse that might not trigger other indicators.

# **Compliance Assurance Monitoring Plan**

## **Poet Biorefining - Preston**

### **Hammermill #5 & Conveyors**

#### **TREA 26 Fabric Filter**

Hammermill #5 (EQUI 234, 96, 97, 192/233, 193, 235) will have a fabric filter for the control of particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64. This CAM Plan will become effective upon installation and start-up of TREA 26,

#### **IV. Background**

##### **A. Emissions Unit**

Description: Hammermill #5 & Conveyors

Identification: EQUI 234, 96, 97, 192/233, 193, 223

Facility: Poet Biorefining- Preston,  
Preston, Minnesota

##### **B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Minn R. 7011.0715, 40 CFR 52.21

PM emission limit: 0.41 lbs/hr and 99% control efficiency

PM<sub>10</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

PM<sub>2.5</sub> emission limit: 0.41 lbs/hr and 93% control efficiency

Monitoring requirements: Pressure drop across the baghouse with daily recordkeeping and visible emissions < 20% opacity

##### **C. Control Technology**

One (1) fabric filter

#### **V. Monitoring Approach**

##### **A. Indicator**

Visible emissions and pressure drop will be used as the indicator for particulate matter emissions.

##### **B. Measurement Approach**

Visible emissions and pressure drop will be observed and recorded once every 24-hours during daylight hours during operation.

##### **C. Indicator Range**

The presence of visible emissions will be the indicator.

≥ 0.05 inches of water column and ≤ 4 inches of water column.

##### **D. QIP Threshold**

In any six month reporting period the Quality Improvement Plan (QIP) thresholds are:

- Nine (9) reported excursions of the visible emissions opacity limit or pressure drop range on the fabric filter

## **Compliance Assurance Monitoring Plan Poet Biorefining - Preston**

### **F. Performance Criteria**

#### **Data representativeness:**

A pressure drop outside of the stated range or visible emissions may indicate a problem, such as:

- a tear or other failure of one or more bags within the fabric filter.
- overloading of the bags; or
- excess flow rate.

These conditions may lead to excess emissions of particulate matter.

#### **Verification of operational status:**

Pressure Drop – The pressure drop gauges will be maintained in accordance manufacturer's O&M procedures.

On-site personnel will be trained to detect normal and visible emissions.

#### **QA/QC practices and criteria:**

The pressure drop gauges will be calibrated annually.

Visible emission training will be reviewed annually.

When a reportable excursion occurs, corrective action will initiate as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, a visible emission reading will be taken to confirm that the corrective action has been effective.

#### **Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the visible emission readings once per day.

### **VI. Justification**

#### **D. Background**

The unit is a hammermill which is equipped with a fabric filter for the control of PM, PM10, and PM2.5.

#### **E. Rationale for Selection of Performance Indicator**

Visible emissions and/or pressure drop outside the allowable range may indicate reduced performance of the fabric filter. Therefore, visible emissions and pressure drop are used as performance indicators.

#### **F. Rationale for Selection of Indicator Level**

Visible emissions and pressure drop were selected because they can detect problems with the baghouse that might not trigger other indicators.

**Compliance Assurance Monitoring Plan  
Poet Biorefining - Preston**

**DDGS Silo & Conveyor  
TREA 20 Fabric Filter**

DDGS Silo and Conveyor (EQUIs 11, 83, 198) has a fabric filter for the control of particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM10) and particulate matter less than 2.5 micrometers in diameter (PM2.5) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

**I. Background**

**A. Emissions Unit**

Description: DDGS Silo and Conveyor

Identification: EQUIs 11, 83, 198

Facility: Poet Biorefining- Preston

Preston, Minnesota

**B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Minn R. 7011.0715, 40 CFR 52.21

PM emission limit: 0.07 lbs/hr and 99% control efficiency

PM<sub>10</sub> emission limit: 0.07 lbs/hr and 93% control efficiency

PM<sub>2.5</sub> emission limit: 0.07 lbs/hr and 93 % control efficiency

Monitoring requirements: Pressure drop across the baghouse with daily recordkeeping and visible emissions < 10% opacity

**C. Control Technology**

One (1) fabric filter

**II. Monitoring Approach**

**A. Indicator**

Visible emissions and pressure drop will be used as the indicator for particulate matter emissions.

**B. Measurement Approach**

Visible emissions and pressure drop will be observed and recorded once every 24-hours during daylight hours during operation.

**C. Indicator Range**

The presence of visible emissions will be the indicator.

≥ 0.05 inches of water column and ≤ 4 inches of water column.

**D. QIP Threshold**

In any six-month reporting period the Quality Improvement Plan (QIP) thresholds are:

- Nine (9) reported excursions of the visible emissions opacity limit or pressure drop range on the fabric filter



## **Compliance Assurance Monitoring Plan**

### **Poet Biorefining - Preston**

#### **E. Performance Criteria**

##### **Data representativeness:**

A pressure drop outside of the stated range or visible emissions may indicate a problem, such as:

- a tear or other failure of one or more bags within the fabric filter.
- overloading of the bags; or
- excess flow rate.

These conditions may lead to excess emissions of particulate matter.

##### **Verification of operational status:**

Pressure Drop – The pressure drop gauge will be maintained in accordance manufacturer's O&M procedures.

On-site personnel will be trained to detect normal and visible emissions.

##### **QA/QC practices and criteria:**

The pressure drop gauges will be calibrated annually.

Visible emission training will be reviewed annually.

When a reportable excursion occurs, corrective action will initiate as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, a visible emission reading will be taken to confirm that the corrective action has been effective.

##### **Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the visible emission readings once per day.

#### **III. Justification**

##### **A. Background**

The units are a DDGS cooling cyclone and regrinder which are equipped with a fabric filter for the control of PM, PM10, and PM2.5

##### **B. Rationale for Selection of Performance Indicator**

Visible emissions and/or pressure drop outside the allowable range may indicate reduced performance of the fabric filter. Therefore, visible emissions and pressure drop are used as performance indicators.

##### **C. Rationale for Selection of Indicator Level**

Visible emissions and pressure drop were selected because they can detect problems with the baghouse that might not trigger other indicators.

# Compliance Assurance Monitoring Plan

## Poet Biorefining - Preston

### Fermentation System

#### TREA 19 – Wet Scrubber, TREA 25 – Wet Scrubber (once installed)

The fermentation system (EQUIs 12, 54, 55, 56, 57, 58, 59, 60, 63, 64, 65, 66, 205 & 206) has wet scrubbers for the control of VOC that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

#### I. Background

##### A. Emissions Unit

Description: Fermentation

Identification: EQUIs 12, 54, 55, 56, 57, 58, 59, 60, 63, 64, 65, 66, 205 & 206

Facility: Poet Biorefining- Preston,  
Preston, Minnesota

##### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

**Regulation No.:** Minn. R.7007.0800,subp. 2, Minn R. 7007.3000, 40 CFR 52.21

**Emission limits:** Volatile Organic Compounds:  $\leq 7.5$  lbs/hour using 3-hour average as total mass of VOCs and  $\geq 95\%$  control efficiency or  $\leq 20$  ppm if inlet concentration is below 200 ppm.

**Monitoring requirements:**

- Water flow rate
- Pressure Drop

##### C. Control Technology

Two (2) packed bed wet scrubbers (Only one will operate at a time once TREA 25 is installed)

#### II. Monitoring Approach

##### A. Indicator

Water flow rate and scrubber pressure drop will be used.

##### B. Measurement Approach

Record the pressure drop and water flow rate of each scrubber once each day of operation.

##### C. Indicator Range

- TREA 19: Water flow rate:  $\geq 38$  gallons/minute when TREA 14 is offline
- TREA 19: Water flow rate  $\geq 20$  gallons/minute when TREA 14 is online
- TREA 19: Scrubber additive flow rate:  $\geq 2.8$  gallons/minute, or as determined by the most recent performance test, when TREA 14 is offline
- TREA 25, *once installed*, Water flow rate:  $\geq 38$  gallons/minute when TREA 14 is offline

## **Compliance Assurance Monitoring Plan**

### **Poet Biorefining - Preston**

- TREA 25, *once installed*, Water flow rate:  $\geq 20$  gallons/minute when TREA 14 is online
- TREA 25, *once installed*, Scrubber additive flow rate:  $\geq 2.5$  gallons/minute, or as determined by the most recent performance test, when TREA 14 is offline
- Pressure Drop:  $\geq 1$  inches of water column and  $\leq 12$  inches of water column

#### **D. QIP Threshold**

In any six-month reporting period the Quality Improvement Plan (QIP) thresholds are:

- Nine (9) reported excursions of the flow rate or pressure drop

#### **E. Performance Criteria**

##### **Data representativeness:**

Low water flow may indicate insufficient volume of scrubbant to effectively absorb the volatile organic compounds in the exhaust gases.

High pressure drop may indicate plugging or fouling of the packed bed which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases.

Low pressure drop may indicate channeling of the packed bed which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases. It may also indicate insufficient quantity of packed material which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases. It could also indicate a lack of process gas.

These conditions may lead to excess emissions of volatile organic compounds.

##### **Verification of operational status:**

NA

##### **QA/QC practices and criteria:**

Calibrate or replace the pressure drop and water flow gauges every 12 months, or more or less frequently as required by the manufacturer's specifications.

When a reportable excursion occurs, corrective action will initiate as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, flow rate and/or pressure drop readings will be taken to confirm that the corrective action has been effective.

##### **Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the flow rate and pressure drop once per day.

## **Compliance Assurance Monitoring Plan**

### **Poet Biorefining - Preston**

#### **III. Justification**

##### **A. Background**

The fermentation system is equipped with two packed bed wet scrubbers for the control of volatile organic compounds. One of the two scrubbers will operate at a time.

##### **B. Rationale for Selection of Performance Indicator**

Low water flow may indicate insufficient volume of scrubbant to effectively absorb the volatile organic compounds in the exhaust gases.

High pressure drop may indicate plugging or fouling of the packed bed which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases.

Low pressure drop may indicate channeling of the packed bed which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases. It may also indicate insufficient quantity of packed material which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases.

These conditions may lead to excess emissions of volatile organic compounds.

##### **C. Rationale for Selection of Indicator Level**

Water flow rate and pressure drop are based on operational conditions during a performance test where compliance with the emission limit and removal efficiency were demonstrated.

# Compliance Assurance Monitoring Plan

## Poet Biorefining - Preston

### TREA 17 – Wet Scrubber

The distillation and beer stripper process tanks (EQUIs 4, 6, 13, 17, 53, 62, 68, 69, 70, 194, 207, 217, 226, 227, 228, 229, 230, 231) has a wet scrubber for the control of VOC that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

#### I. Background

##### A. Emissions Unit

Description: Distillation and Process Tanks

Identification: EQUIs 4, 6, 13, 17, 53, 62, 68, 69, 70, 194, 207, 217, 226, 227, 228, 229, 230, 231

Facility: Poet Biorefining- Preston,  
Preston, Minnesota

##### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

**Regulation No.:** Minn. R.7007.0800,subp. 2, Minn R. 7007.3000, 40 CFR 52.21

**Emission limits:** VOC:  $\leq 1.5$  lbs/hour and 95% control efficiency

##### **Monitoring requirements:**

##### Operating Scenario 1

- Water flow rate:  $\geq 10$  gallons/minute (3-hour average)
- Pressure Drop:  $\geq 1$  inches of water column and  $\leq 12$  inches of water column

##### C. Control Technology

Packed gas adsorption column

#### II. Monitoring Approach

##### A. Indicator

Water flow rate and scrubber pressure drop will be used

##### B. Measurement Approach

Record the pressure drop and water flow rate of each scrubber once each day of operation.

## **Compliance Assurance Monitoring Plan Poet Biorefining - Preston**

C. Indicator Range

- Water flow rate:  $\geq 10$  gallons/minute.
- Pressure Drop:  $\geq 1$  inches of water column and  $\leq 12$  inches of water column

D. QIP Threshold

In any six-month reporting period the Quality Improvement Plan (QIP) thresholds are:

- E. Nine (9) reported excursions of the flow rate or pressure drop

E. Performance Criteria

**Data representativeness:**

Low water flow may indicate insufficient volume of scrubbant to effectively absorb the volatile organic compounds in the exhaust gases.

High pressure drop may indicate plugging or fouling of the packed bed which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases.

Low pressure drop may indicate channeling of the packed bed which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases. It may also indicate insufficient quantity of packed material which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases.

These conditions may lead to excess emissions of volatile organic compounds.

**Verification of operational status:**

NA

**QA/QC practices and criteria:**

Calibrate or replace the pressure drop and water flow gauges every 12 months, or more or less frequently as required by the manufacturer's specifications.

When a reportable excursion occurs, corrective action will initiate as soon as possible but no later than 8 hours after the excursion occurs, beginning with an evaluation of the occurrence to determine the action required to correct the situation.

After corrective action has been taken, flow rate and/or pressure drop readings will be taken to confirm that the corrective action has been effective.

**Monitoring frequency and data collection procedure:**

A facility operator records and evaluates the flow rate and pressure drop once per day.

III. Justification

A. Background

The distillation system is equipped with a packed bed wet scrubber for the control of volatile organic compounds.

B. Rationale for Selection of Performance Indicator

## **Compliance Assurance Monitoring Plan**

### **Poet Biorefining - Preston**

Low water flow may indicate insufficient volume of scrubbant to effectively absorb the volatile organic compounds in the exhaust gases.

High pressure drop may indicate plugging or fouling of the packed bed which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases.

Low pressure drop may indicate channeling of the packed bed which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases. It may also indicate insufficient quantity of packed material which may affect the ability of the scrubber to absorb the volatile organic compounds in the exhaust gases.

These conditions may lead to excess emissions of volatile organic compounds.

#### **C. Rationale for Selection of Indicator Level**

Water flow rate and pressure drop are based on operational conditions during a performance test where compliance with the emission limit and removal efficiency were demonstrated.

# Compliance Assurance Monitoring Plan

## Poet Biorefining - Preston

### TREA 14 RTO

The centrifuges and dryers have an RTO for the control of volatile organic compounds (VOC), hazardous air pollutants (HAPs), and carbon monoxide (CO) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

#### I. Background

##### A. Emissions Unit

Description: Fermenters, Centrifuges and Dryers

Identification: EQUI 12, 20, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 66, 203, 205, 206, 214, 215 and 216

Facility: Poet Biorefining- Preston

Preston, Minnesota

##### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

**Regulation No.:** Minn. R.7007.0800,subp. 2, Minn R. 7007.3000, 40 CFR 52.21

**Emission limits:** VOC – 12 lb/hr  
VOC control efficiency – 95%  
PM control efficiency – 80%  
PM10 control efficiency – 80%  
PM2.5 control efficiency – 80%  
CO - 13.1 lb/hr  
CO control efficiency – 90%

##### **Monitoring requirements:**

C. RTO combustion temperature will be maintained at  $\geq 1634$  degrees F as a three-hour rolling average at the Combustion Chamber

##### D. Control Technology

TREA 14, Regenerative Thermal Oxidizer

#### II. Monitoring Approach

##### A. Indicator

Combustion chamber temperature when chamber temperature is below indicator range.

##### B. Measurement Approach

The combustion chamber temperature is measured continuously using a thermocouple in the combustion chamber.

##### C. Indicator Range

RTO combustion temperature will be maintained at  $\geq 1634$  degrees F as a three-hour rolling average at the Combustion Chamber unless a new minimum is set pursuant to Minn.R.7017.2025, subp.3, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated.



## **Compliance Assurance Monitoring Plan**

### **Poet Biorefining - Preston**

D. QIP Threshold

The Quality Improvement Plan (QIP) threshold is 36 excursions of the 3-hour temperature in one calendar quarter. An excursion for temperature is a 3-hour average below 1634 degrees F.

E. Performance Criteria

Data representativeness:

The monitoring system consists of a thermocouple in the combustion chamber with a digital readout and electronic data storage.

The equipment has been installed and calibrated according to the manufacturer's specifications.

Verification of operational status:

The monitoring equipment will be maintained in good working condition according to the manufacturer's O&M procedures.

QA/QC practices and criteria:

The thermocouple will be changed and calibrated according to the manufacturer's specifications.

Monitoring frequency and data collection procedure:

The temperature of the combustion chamber is continuously displayed and recorded.

III. Justification

A. Background

The fermenters, centrifuges and dryers are controlled by the regenerative thermal oxidizer, TREX 14.

B. Rationale for Selection of Performance Indicator

The combustion chamber temperature is the parameter that is most indicative of control device performance. If the combustion zone temperature decreases, complete optimum combustion may not occur resulting in an increase in VOC, HAP, and CO emissions. By maintaining the operating temperature above the minimum level, applicable control efficiencies can be achieved.

C. Rationale for Selection of Indicator Level

RTO combustion temperature will be maintained at  $\geq 1634$  degrees F as a three-hour rolling average at the Combustion Chamber in accordance with permit requirements. The minimum temperature is based on operational conditions during a performance test where compliance with the emission limit and removal efficiency were demonstrated.

# Compliance Assurance Monitoring Plan

## Poet Biorefining - Preston

### TREA 6 Flare

The ethanol truck loadout process (EQUI 67 and 71) has a flare for the control of volatile organic compounds (VOC) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64.

#### I. Background

##### A. Emissions Unit

Description: Ethanol truck loadout

Identification: EQUI 67, 71

Facility: Poet Biorefining- Preston

Preston, Minnesota

##### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

**Regulation No.:** Minn. R.7007.0800,subp. 2, Minn R. 7007.3000, 40 CFR 52.21

**Emission limits:** VOC control efficiency – 98%

**Monitoring requirements:** Verify presence of a pilot light flame

##### C. Control Technology

TREA 6, Enclosed Flare

#### II. Monitoring Approach

##### A. Indicator

Presence of pilot flame.

##### B. Measurement Approach

The presence of a pilot flame is monitored continuously using a thermocouple.

##### C. Indicator Range

Presence of a pilot flame when loading ethanol into trucks unless the loading is unflared as allowed by the permit.

**Compliance Assurance Monitoring Plan  
Poet Biorefining - Preston**

D. QIP Threshold

The Quality Improvement Plan (QIP) threshold is the absence of a pilot flame for 5 percent of the total hours that ethanol truck loadout occurred in a calendar year, excluding hours that ethanol truck loadout is unflared as allow by the permit.

E. Performance Criteria

Data representativeness:

The monitoring system consists of a thermocouple with a digital readout and electronic data storage.

The equipment has been installed and calibrated according to the manufacturer's specifications.

Verification of operational status:

The monitoring equipment will be maintained in good working condition according to the manufacturer's O&M procedures.

QA/QC practices and criteria:

The thermocouple will be changed and calibrated according to the manufacturer's specifications.

Monitoring frequency and data collection procedure:

The temperature of the combustion chamber is continuously displayed and recorded.

III. Justification

A. Background

The ethanol truck loadout, TREA 6.

B. Rationale for Selection of Performance Indicator

The presence of a pilot flame is the parameter that is most indicative of control device performance. If a pilot flame is not present, combustion may not occur resulting in an increase in VOC emissions. By maintaining a pilot flame, applicable control efficiencies can be achieved.

C. Rationale for Selection of Indicator Level

The presence of a pilot flame is sufficient to demonstrate proper operation of the flare.

**Compliance Assurance Monitoring Plan  
Poet Biorefining - Preston**

**TREA 27 RTO 2**

The centrifuges and dryers have an RTO for the control of volatile organic compounds (VOC), hazardous air pollutants (HAPs), and carbon monoxide (CO) that is applicable to the Compliance Assurance Monitoring (CAM) plan requirements of 40 CFR 64. TREA 27 will replace TREA 14. Upon installation and start-up of TREA 27, this CAM Plan will become effective.

**I. Background**

**A. Emissions Unit**

Description: Fermenters, Centrifuges and Dryers

Identification: EQUI 12, 20, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 66, 203, 205, 206, 214, 215 and 216

Facility: Poet Biorefining- Preston  
Preston, Minnesota

**B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

**Regulation No.:** Minn. R.7007.0800,subp. 2, Minn R. 7007.3000, 40 CFR 52.21

**Emission limits:** VOC – 12 lb/hr  
VOC control efficiency – 95%  
PM control efficiency – 80%  
PM10 control efficiency – 80%  
PM2.5 control efficiency – 80%  
CO - 13.1 lb/hr  
CO control efficiency – 90%

**Monitoring requirements:**

C. RTO combustion temperature will be maintained at  $\geq 1634$  degrees F as a three-hour rolling average at the Combustion Chamber, until a new limit is established by a performance test.

**D. Control Technology**

TREA 27, Regenerative Thermal Oxidizer

**II. Monitoring Approach**

**A. Indicator**

Combustion chamber temperature when chamber temperature is below indicator range.

**B. Measurement Approach**

The combustion chamber temperature is measured continuously using a thermocouple in the combustion chamber.

**C. Indicator Range**

RTO combustion temperature will be maintained at  $\geq 1634$  degrees F as a three-hour rolling average at the Combustion Chamber unless a new minimum is set pursuant to Minn.R.7017.2025, subp.3, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated.

## **Compliance Assurance Monitoring Plan**

### **Poet Biorefining - Preston**

D. QIP Threshold

The Quality Improvement Plan (QIP) threshold is 36 excursions of the 3-hour temperature in one calendar quarter. An excursion for temperature is a 3-hour average below 1634 degrees F.

E. Performance Criteria

Data representativeness:

The monitoring system consists of a thermocouple in the combustion chamber with a digital readout and electronic data storage.

The equipment has been installed and calibrated according to the manufacturer's specifications.

Verification of operational status:

The monitoring equipment will be maintained in good working condition according to the manufacturer's O&M procedures.

QA/QC practices and criteria:

The thermocouple will be changed and calibrated according to the manufacturer's specifications.

Monitoring frequency and data collection procedure:

The temperature of the combustion chamber is continuously displayed and recorded.

III. Justification

A. Background

The fermenters, centrifuges and dryers are controlled by the regenerative thermal oxidizer, TREX 27.

B. Rationale for Selection of Performance Indicator

The combustion chamber temperature is the parameter that is most indicative of control device performance. If the combustion zone temperature decreases, complete optimum combustion may not occur resulting in an increase in VOC, HAP, and CO emissions. By maintaining the operating temperature above the minimum level, applicable control efficiencies can be achieved.

C. Rationale for Selection of Indicator Level

RTO combustion temperature will be maintained at  $\geq 1634$  degrees F as a three-hour rolling average at the Combustion Chamber in accordance with permit requirements. The minimum temperature is based on operational conditions during a performance test where compliance with the emission limit and removal efficiency were demonstrated.

## **Attachment 4 - Modeling Results**

**Air Quality Dispersion Modeling (AQDM) report form**

Doc Type: Air Dispersion Modeling

**Acronym list on page 7.**

**Instructions for permit applicants:** For air dispersion modeling conducted to support a permit amendment, a copy of the completed Air Quality Dispersion Modeling report form (AQDM-06) and all accompanying electronic files must be included in each required copy of the permit application. Follow the instructions for submitting the permit application located at <https://www.pca.state.mn.us/business-with-us/air-permit-application-forms>.

**Instructions for other modeling submittals:** For air dispersion modeling conducted for a permit or compliance requirement or special project that doesn't require a permit amendment, submit a "pdf" copy of the Air Quality Dispersion Modeling report form (AQDM-06) and accompanying modeling files on electronic media, such as a compact disc (CD) or USB drive, to:

Air Quality Permit Document Coordinator  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, MN 55155-4194

Is this Modeling Report in support of a Permit Application: ☐ Yes ☐ No**Facility information**Tempo AI ID number: 715 AQ facility/permit ID number: 4500049 Today's date: 03/23/2026  
(mm/dd/yyyy)Facility name: Pro Corn LLC d/b/a POET Biorefining - PrestonFacility street address: 701 Industrial Drive NCity: Preston County: Fillmore Zip code: 55965 State: MNFacility contact: Chris Hanson Report prepared by: Caryn SutorusFacility contact phone: 507-765-4548 Preparer phone: 704-716-0725Facility contact email address: chris.hanson@poet.com Preparer email address: caryn.sutorus@aecom.com\*UTM coordinates of facility (NAD83, zone 15 extended only): x = 573,200.00 m East, y = 4837500.00 m North

\*This should be the central location of the facility/source.

**These results are associated with** (check all that apply):

- ☐ AERA or Dispersion/Deposition modeling for air toxics
- ☐ Environmental assessment worksheet
- ☐ Environmental impact statement
- ☐ Modeling information request
- ☐ Modeling Impacts from animal feedlots
- ☐ Siting an air monitoring station
- ☐ Siting a meteorological station
- ☐ Permit condition
- ☒ Permit modification
- ☐ Prevention of significant deterioration
- ☐ Screening modeling
- ☐ Special project
- ☐ State implementation plan

## Project description

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POET-Preston is requesting a permit modification to reflect an addition of a new RTO and an increase in SO<sub>2</sub> emissions in STRU22/ STRU57, STRU20, and STRU17, and to update emissions from a make up air unit, EQUI219.

## Files to accompany modeling results

---

Use the checkboxes to indicate the files that are included with the modeling report.

1. AERMOD files:
  - ☒ SIA input (\*.inp, \*.adi, \*.ami)
  - ☒ SIA output (\*.out, \*.ado, \*.amo)
  - ☒ SIA plot (\*.plt)
  - ☐ SIA post (\*.pst)
  - ☒ CIA input (\*.inp, \*.adi, \*.ami)
  - ☒ CIA output (\*.out, \*.ado, \*.amo)
  - ☒ CIA plot (\*.plt)
  - ☐ CIA post (\*.pst)
  - ☐ CIA culpability (MAXDCONT) (\*.dat, \*.txt)
  - ☐ Other (\*.emi, \*.evi, etc.)
2. AERMET files:
  - ☒ Surface (\*.sfc)
  - ☒ Profile (\*.pfl)
3. BPIP-PRIME files:
  - ☒ Input (\*.bpi, \*.pip)
  - ☒ Output (\*.bpo)
  - ☐ Summary (\*.sum)
4. AERMAP files:
  - ☐ Terrain (\*.tif)
  - ☒ Input (\*.inp, \*.ami)
  - ☐ Output (\*.out)
  - ☒ Receptor (\*.rou)
  - ☒ Source (\*.sou)
5. Background data files:
  - ☒ Background concentrations and supporting calculations (annual, seasonal, monthly, etc.)
  - ☒ Supporting ambient monitoring data
6. Modeling results figures:
  - ☒ Figures (\*.jpeg, \*.pdf)
  - ☐ GIS maps (\*.shp)
7. ☒ AQDM-02 spreadsheet: *(Indicate/highlight changes from approved protocol.)*
8. ☐ Source impact analysis results (AQDM-11)
9. ☐ Hourly O<sub>3</sub> file
10. ☐ General Public Preclusion Plan (GPPP)
11. ☐ AERA forms
12. ☒ Other files and supporting documents:

*All of these files, with the exception of the GPPP and SIA / CIA plots, were included with the protocol submission. The SIA and CIA plots and updated AERMAP input and receptor files are included with this report. To address the MPCA protocol comment regarding 3-hr SO<sub>2</sub> ambient background, the CIA modeling now includes the same ambient background value used for 1-hr SO<sub>2</sub>, which is a conservative method. Terrain files were provided separately in a shared OneDrive folder.*



## Section 1. Modeling protocol

1. This AQDM report is based on a protocol that has been:

☐ Approved ☒ Conditionally approved \*MPCA approval date (mm/dd/yyyy): 03/16/2026

*\*This is the date given on AQDM-04 form*

2. Does this modeling submittal **completely** follow the approved protocol? ☐ Yes ☒ No

If yes, proceed to Section 3.

If no, proceed to Section 2.

## Section 2. Changes to approved/conditionally approved modeling protocol

**Table 1: Protocol changes** (Please indicate which sections in the approved/conditionally approved protocol have been changed.)

| Modeling protocol by sections  |                  |
|--------------------------------|------------------|
| Section name                   | Change/No change |
| Modeling purpose               | Select from list |
| Terrain                        | Select from list |
| Buildings                      | Select from list |
| Model selection and options    | Select from list |
| Point sources                  | Select from list |
| Volume sources                 | Select from list |
| Area sources                   | Select from list |
| Area source coordinates        | Select from list |
| Receptors                      | Change           |
| Meteorological data            | Select from list |
| Source impact analysis         | Select from list |
| Background values              | Change           |
| Nearby sources                 | Select from list |
| Pollutant based considerations | Select from list |
| Attachments                    | Select from list |
| AERA forms                     | Select from list |

### Section 2.1: Detailed changes to modeling protocol

Please provide specific information corresponding to the sections in Table 1 where changes are indicated. If you consulted with the MPCA regarding these proposed changes, document the date of the consultation.

#### Modeling purpose

MPCA consultation: ☐ Yes ☐ No Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

#### Terrain

MPCA consultation: ☐ Yes ☐ No Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

#### Buildings

MPCA consultation: ☐ Yes ☐ No Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Model selection and options

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Point sources

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Volume sources

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Area sources

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Area source coordinates

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Receptors

MPCA consultation: ☐ Yes ☒ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

*Initial receptor grid expanded to 30km plus six additional receptors for 1-hr SO<sub>2</sub> to show more possible significant receptors.*

### Meteorological data

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Source impact analysis

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Background values

MPCA consultation: ☐ Yes ☒ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

*3-hr ambient background added - same value as 1-hr SO<sub>2</sub> to be conservative.*

### Nearby sources

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Pollutant-based considerations

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### Attachments

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

### AERA forms

MPCA consultation: ☐ Yes ☐ No

Date (mm/dd/yyyy): \_\_\_\_\_

Describe changes:

## Section 3. Modeling results

**Table 2: Pollutants and averaging periods** (Check all the boxes for each pollutant and averaging period(s) modeled.)

| Pollutant         | Averaging period  | Source<br>Impact<br>Analysis        | Cumulative Impact<br>Analysis       |                                     | Increment                |
|-------------------|-------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
|                   |                   |                                     | NAAQS                               | MAAQs                               |                          |
| CO                | 1-hr              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |
|                   | 8-hr              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |
| Lead              | Rolling 3 mo. Avg | -                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |
| NO <sub>2</sub>   | 1-hr              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | -                        |
|                   | Annual            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |
| SO <sub>2</sub>   | 1-hr              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | -                        |
|                   | 3-hr              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|                   | 24-hr             | <input checked="" type="checkbox"/> | -                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|                   | Annual            | <input checked="" type="checkbox"/> | -                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| PM <sub>10</sub>  | 24-hr             | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |
|                   | Annual            | <input type="checkbox"/>            | -                                   | -                                   | <input type="checkbox"/> |
| PM <sub>2.5</sub> | 24-hr             | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |
|                   | Annual            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |
| Ozone             | 8-hr              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | -                        |

**Table 3: SIA modeling results** (Provide the SIA results along with the percent of the SIL.)

| Pollutant         | Averaging period | SIL<br>(ug/m <sup>3</sup> ) | Total modeled concentration (H1H)<br>(ug/m <sup>3</sup> ) | Percent of SIL<br>(%) |
|-------------------|------------------|-----------------------------|-----------------------------------------------------------|-----------------------|
| NO <sub>2</sub>   | 1-hr             | 7.52                        |                                                           |                       |
|                   | Annual           | 1                           |                                                           |                       |
| SO <sub>2</sub>   | 1-hr             | 7.86                        | 126.18                                                    | 1605                  |
|                   | 3-hr             | 25                          | 124.44                                                    | 498                   |
|                   | 24-hr            | 5                           | 86.97                                                     | 1739                  |
|                   | Annual           | 1                           | 6.05                                                      | 605                   |
| PM <sub>10</sub>  | 24-hr            | 5                           |                                                           |                       |
|                   | Annual           | 1                           |                                                           |                       |
| PM <sub>2.5</sub> | 24-hr            | 1.2                         |                                                           |                       |
|                   | Annual           | 0.3                         |                                                           |                       |
| CO                | 1-hr             | 2000                        |                                                           |                       |
|                   | 8-hr             | 500                         |                                                           |                       |
| Ozone             | 8-hr             | 1 ppb                       | ppb                                                       |                       |

**Table 4: CIA modeling results** (Enter modeling results along with the percent of standard.)

| Pollutant         | Averaging period  | NAAQS<br>(ug/m <sup>3</sup> ) | MAAQS<br>(ug/m <sup>3</sup> ) | Total modeled<br>concentration<br>(includes background<br>and nearby sources)<br>(ug/m <sup>3</sup> ) | Percent of standard<br>(%) |       |
|-------------------|-------------------|-------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------|-------|
|                   |                   |                               |                               |                                                                                                       | NAAQS                      | MAAQS |
| CO                | 1-hr              | 40,071.5                      | 40,071.5                      |                                                                                                       |                            |       |
|                   | 8-hr              | 10,304.1                      | 10,304.1                      |                                                                                                       |                            |       |
| Lead              | Rolling 3 mo. Avg | 0.15                          | 0.15                          |                                                                                                       |                            |       |
| NO <sub>2</sub>   | 1-hr              | 188.0                         | 188.0                         |                                                                                                       |                            |       |
|                   | Annual            | 99.7                          | 99.7                          |                                                                                                       |                            |       |
| SO <sub>2</sub>   | 1-hr              | 196.4                         | 196.4                         | 131.93                                                                                                | 67                         | 67    |
|                   | 3-hr              | 1309.3                        | 1309.3                        | 128.09                                                                                                | 10                         | 10    |
|                   | 24-hr             | 366.6                         | 366.6                         | 78.55                                                                                                 |                            | 21    |
|                   | Annual            | 78.6                          | 78.6                          | 7.78                                                                                                  |                            | 10    |
| PM <sub>10</sub>  | 24-hr             | 150.0                         | 150.0                         |                                                                                                       |                            |       |
| PM <sub>2.5</sub> | 24-hr             | 35.0                          | 35.0                          |                                                                                                       |                            |       |
|                   | Annual            | 9.0                           | 12.0                          |                                                                                                       |                            |       |
| Ozone             | 8-hr              | 137.3<br>(70 ppb)             | 137                           |                                                                                                       |                            |       |

**Table 5: Increment modeling results** (Provide the increment modeling results along with the percent of increment.)

| Pollutant         | Averaging period | Class II increment (ug/m <sup>3</sup> ) | Total modeled concentration (includes other increment sources) (ug/m <sup>3</sup> ) | Percent of increment (%) |
|-------------------|------------------|-----------------------------------------|-------------------------------------------------------------------------------------|--------------------------|
| NO <sub>2</sub>   | 1-hr             | -                                       | -                                                                                   | -                        |
|                   | Annual           | 25                                      |                                                                                     |                          |
| SO <sub>2</sub>   | 1-hr             | -                                       | -                                                                                   | -                        |
|                   | 3-hr             | 512                                     |                                                                                     |                          |
|                   | 24-hr            | 91                                      |                                                                                     |                          |
|                   | Annual           | 20                                      |                                                                                     |                          |
|                   | 24-hr            | 30                                      |                                                                                     |                          |
| PM <sub>10</sub>  | Annual           | 17                                      |                                                                                     |                          |
|                   | 24-hr            | 9                                       |                                                                                     |                          |
| PM <sub>2.5</sub> | Annual           | 4                                       |                                                                                     |                          |

**Table 6: Culpability analysis results** (If results in Table 4 show a modeled exceedance of the NAAQS/MAAQS, document the results of the culpability analysis here.)

| Pollutant         | Averaging period  | Exceedance               |                          | Facility Contribution | Nearby Source(s) Contribution |
|-------------------|-------------------|--------------------------|--------------------------|-----------------------|-------------------------------|
|                   |                   | NAAQS                    | MAAQS                    |                       |                               |
| CO                | 1-hr              | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |
|                   | 8-hr              | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |
| Lead              | Rolling 3 mo. Avg | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |
| NO <sub>2</sub>   | 1-hr              | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |
|                   | Annual            | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |
| SO <sub>2</sub>   | 1-hr              | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |
|                   | 3-hr              | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |
|                   | 24-hr             | -                        | <input type="checkbox"/> |                       |                               |
|                   | Annual            | -                        | <input type="checkbox"/> |                       |                               |
| PM <sub>10</sub>  | 24-hr             | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |
| PM <sub>2.5</sub> | 24-hr             | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |
|                   | Annual            | <input type="checkbox"/> | <input type="checkbox"/> |                       |                               |

## Section 4. Discussion

Enter any discussion, comments, or relevant findings from the modeling demonstration results provided above. Please note that this document is the administrative record for the modeling demonstration. No other forms or reports should be used to convey the final modeling demonstration results without prior written permission from the MPCA Risk Evaluation and Air Modeling Unit. Attachments may be provided to supplement the Report as needed.

*Table 3 and 4 results represent the Scenario where STRU57 runs instead of STRU22 because modeled concentrations are higher for the STRU57 scenario for all SO<sub>2</sub> averaging periods. Results of dispersion modeling for SO<sub>2</sub> indicate maximum concentrations due to the facility are above their respective SILs. Therefore, additional modeling was conducted to determine compliance with the NAAQS/MAAQS. There are no nearby sources include with POET sources, but modeled design concentrations were combined with ambient background monitor concentrations for comparison to the NAAQS/MAAQS. As shown in Table 4, the total modeled concentrations (including ambient background) are less than the respective NAAQS/MAAQS for all SO<sub>2</sub> averaging periods.*

## Section 5. Modeling results figures/maps

Insert a figure or map showing the facility emission sources, receptors, and the location of the modeled maximum concentration(s) for each applicable pollutant, corresponding averaging periods, and operating scenarios.

Please see attached PDF

## Acronyms

|                   |                                                 |
|-------------------|-------------------------------------------------|
| AERA              | Air Emissions Risk Analysis                     |
| AERMAP            | AERMOD Terrain Preprocessor                     |
| AERMET            | AERMOD Meteorological Preprocessor              |
| AERMOD            | AMS/EPA Regulatory Model                        |
| AI                | Agency Interest                                 |
| AQ                | Air Quality                                     |
| AQDM              | Air Quality Dispersion Modeling                 |
| BPIP-PRIME        | Building Profile Input Program for PRIME        |
| CIA               | Cumulative Impact Analysis                      |
| CO                | Carbon Monoxide                                 |
| EPA               | U.S. Environmental Protection Agency            |
| MAAQs             | Minnesota State Ambient Air Quality Standard    |
| MPCA              | Minnesota Pollution Control Agency              |
| NAAQS             | National Ambient Air Quality Standard           |
| NO <sub>2</sub>   | Nitrogen Dioxide                                |
| Pb                | Lead                                            |
| PM <sub>10</sub>  | Particulate matter less than 10 µm in diameter  |
| PM <sub>2.5</sub> | Particulate matter less than 2.5 µm in diameter |
| ppb               | Parts per billion                               |
| PRIME             | Plume Rise Model Enhancements                   |
| PSD               | Prevention of Significant Deterioration Program |
| REAM              | Risk Evaluation and Air Modeling                |
| SIA               | Source Impact Analysis                          |
| SIL               | Significant Impact Level                        |
| SO <sub>2</sub>   | Sulfur Dioxide                                  |
| SIP               | State Implementation Plan                       |
| µg/m <sup>3</sup> | Micrograms per cubic meter                      |
| UTM               | Universal Transverse Mercator                   |

# **POET Biorefining – Preston**

## **Air Dispersion Modeling Report Figures and Attachments**

### **Table of Contents**

**Part 1:** Model Setup Figures

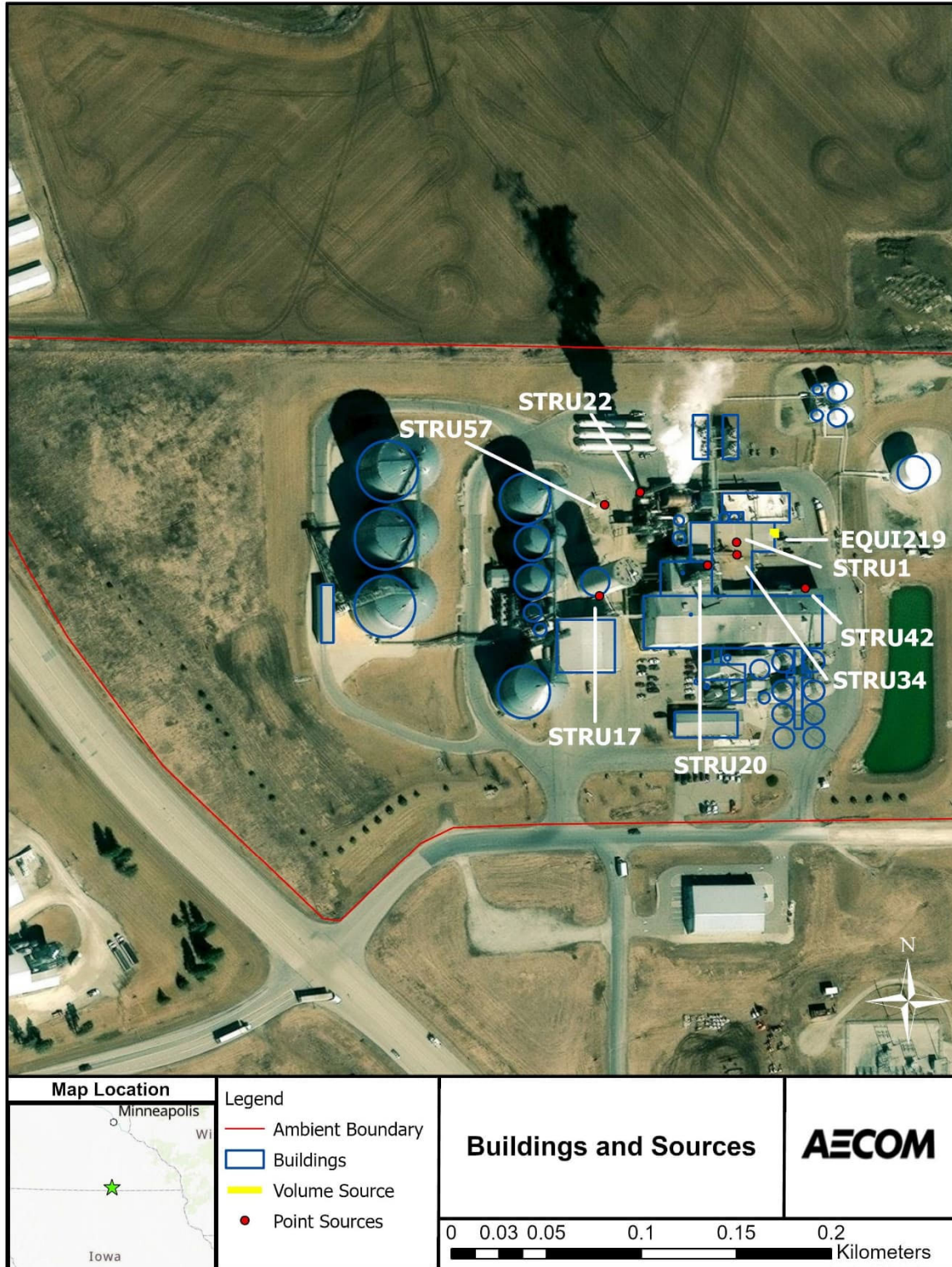
**Part 2:** Modeling Results Isopleths

**Part 3:** Updated AQ2-41 Point Source Parameters tab

**Part 4:** Updated AERMAP files for 30+km Grid and updated 1hr SO<sub>2</sub> modeling files

## Part 1: Model Setup

### Buildings and Sources



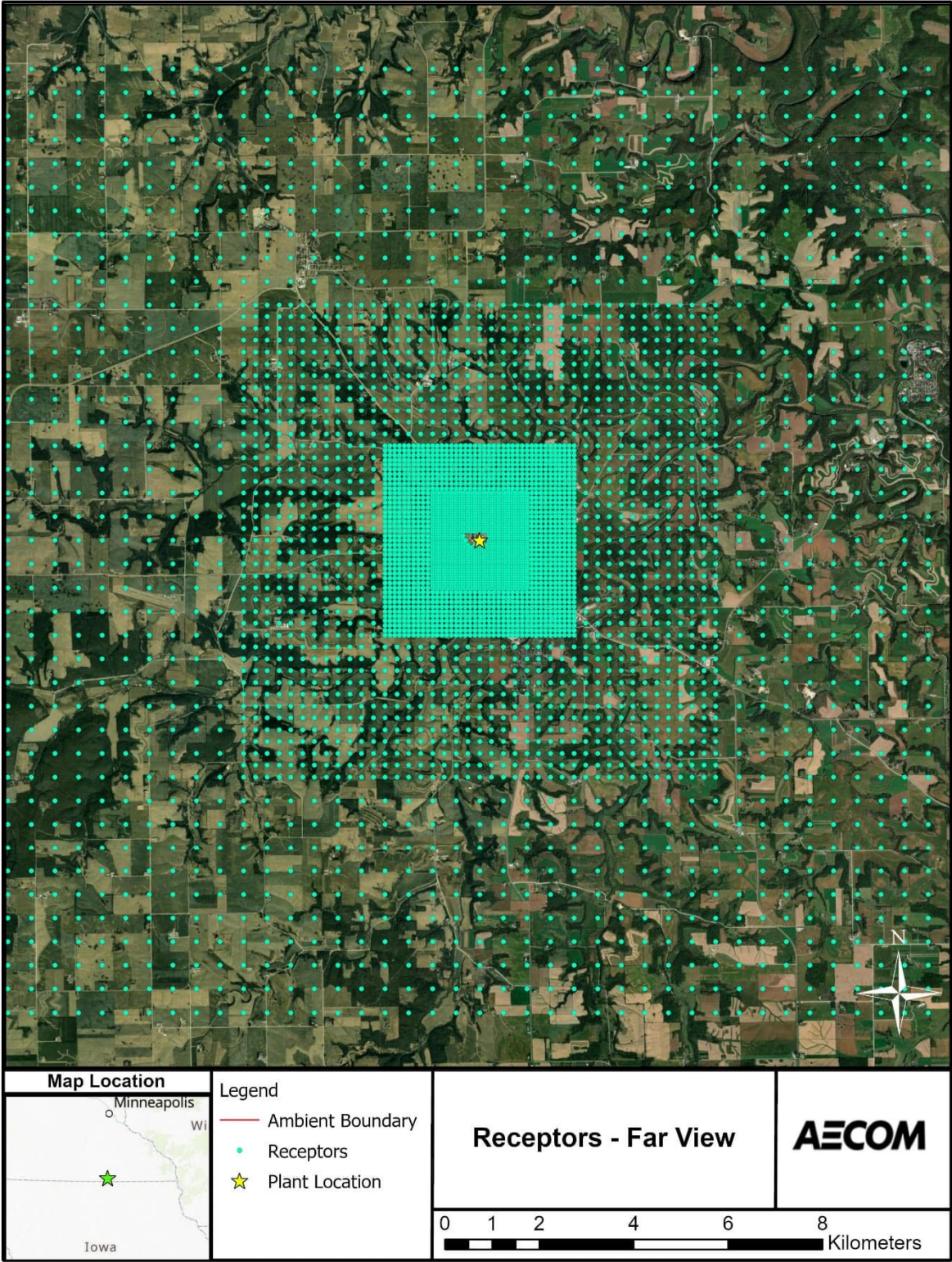


Ambient Boundary



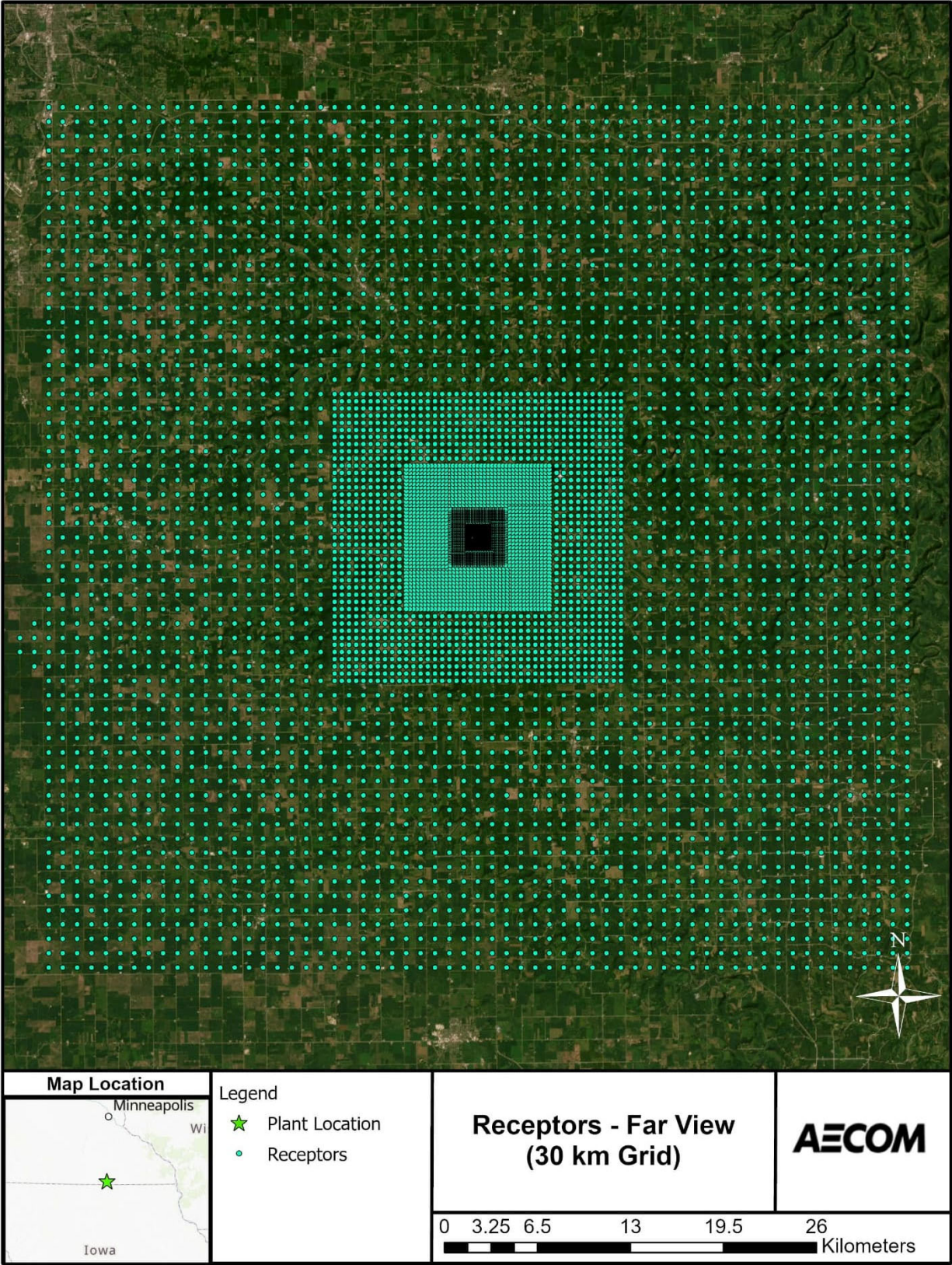


Receptor Grid – Far View



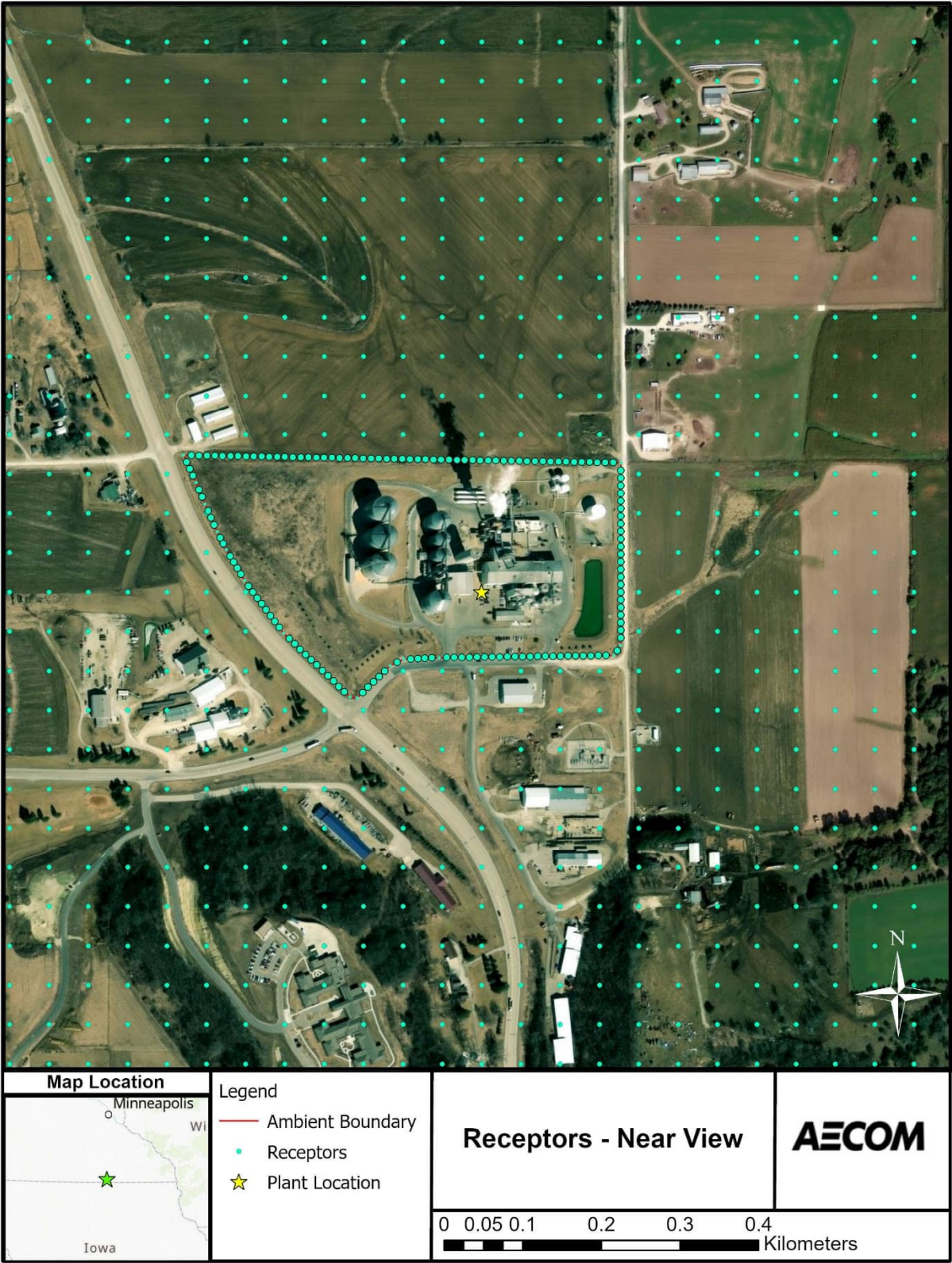


Receptor Grid – Far View (30+ km Grid for 1-hr SO<sub>2</sub>)





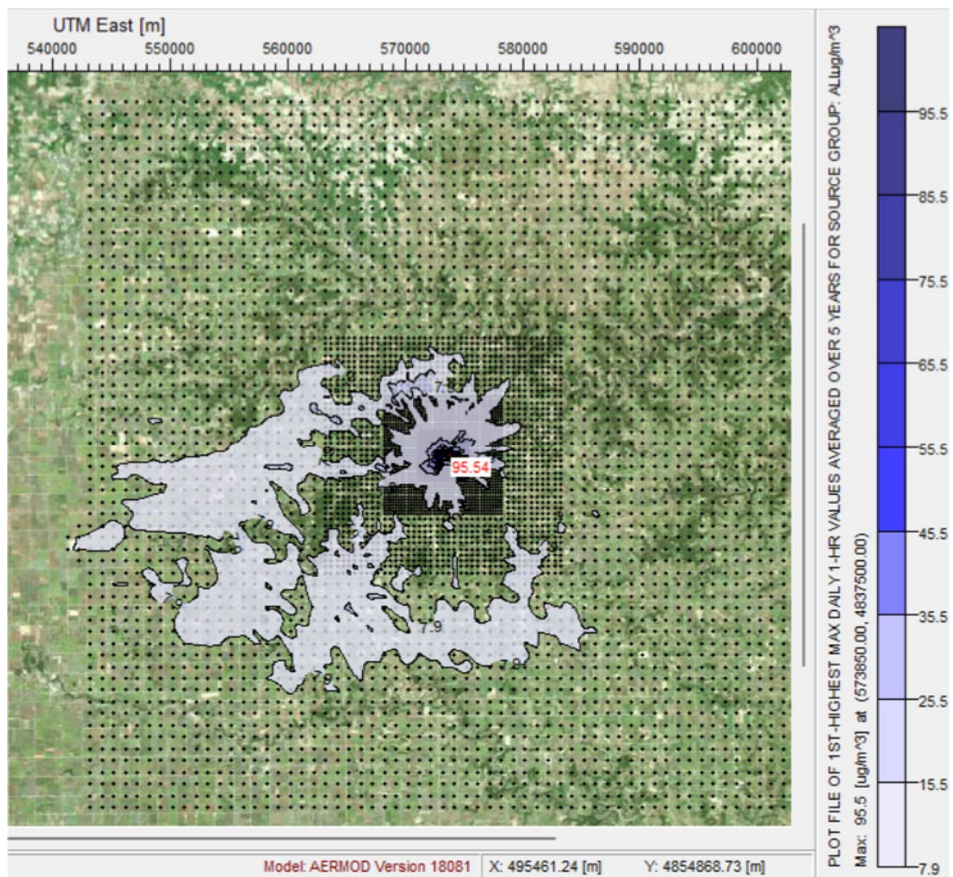
Receptor Grid – Near View



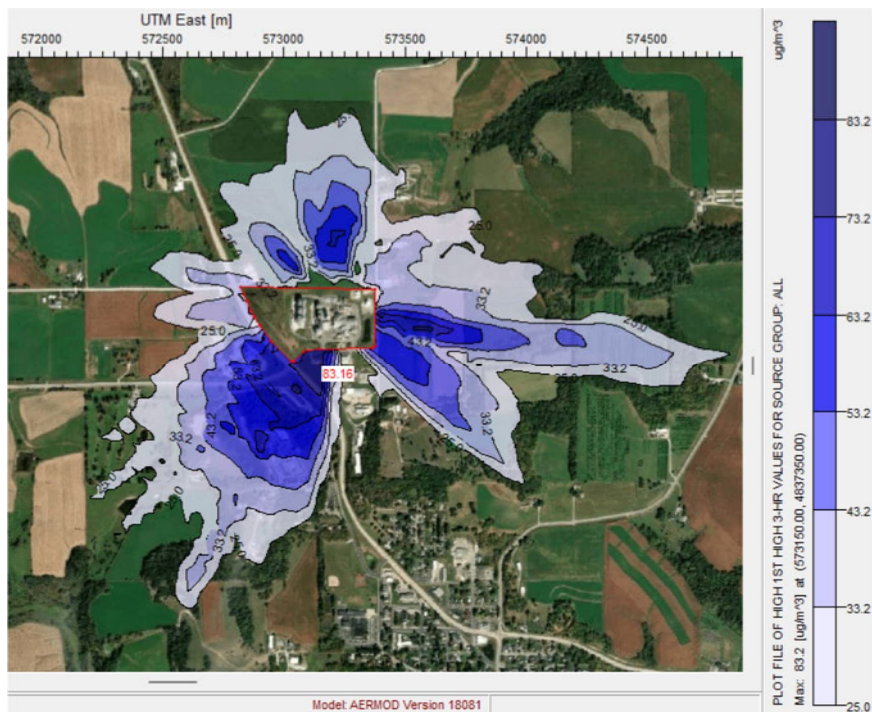


## Part 2: Modeled Maximums

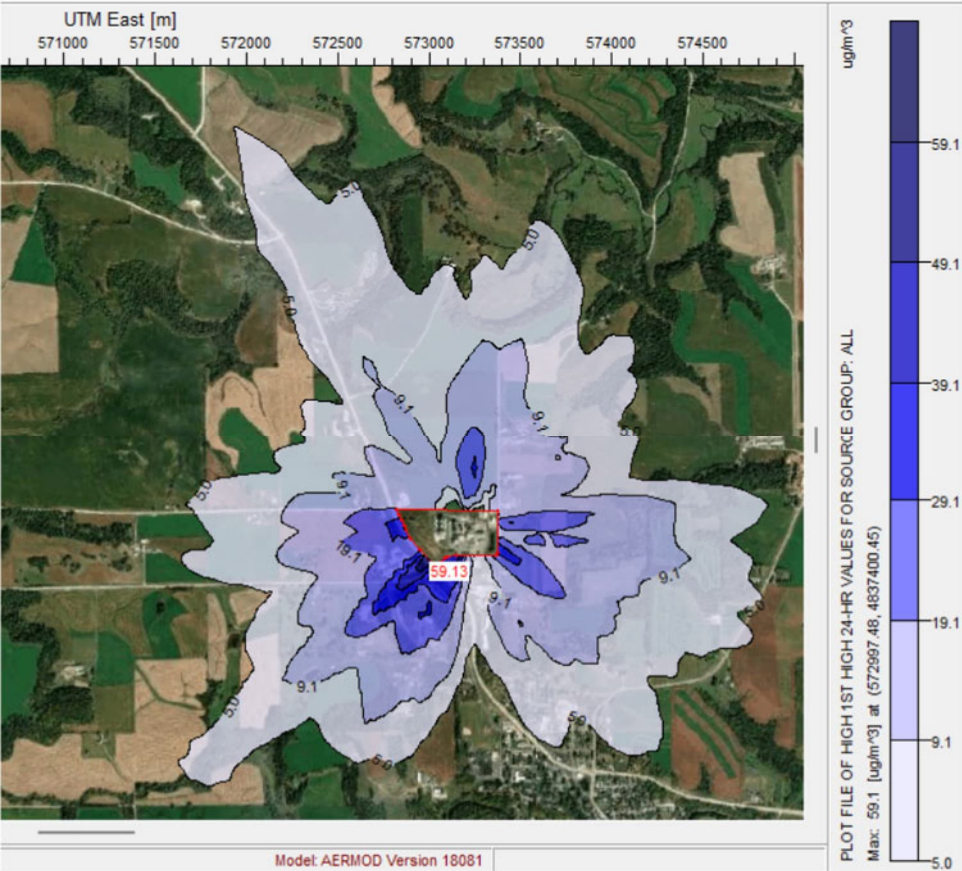
### SIL – Scenario 1 (using STRU22): 1-hr SO<sub>2</sub>



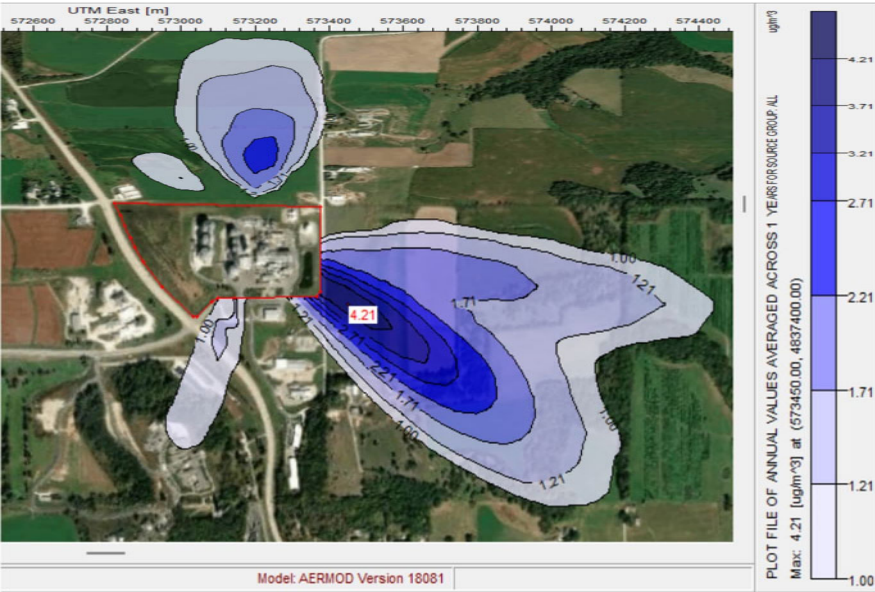
### SIL – Scenario 1 (using STRU22): 3-hr SO<sub>2</sub>



SIL – Scenario 1 (using STRU22): 24-hr SO<sub>2</sub>

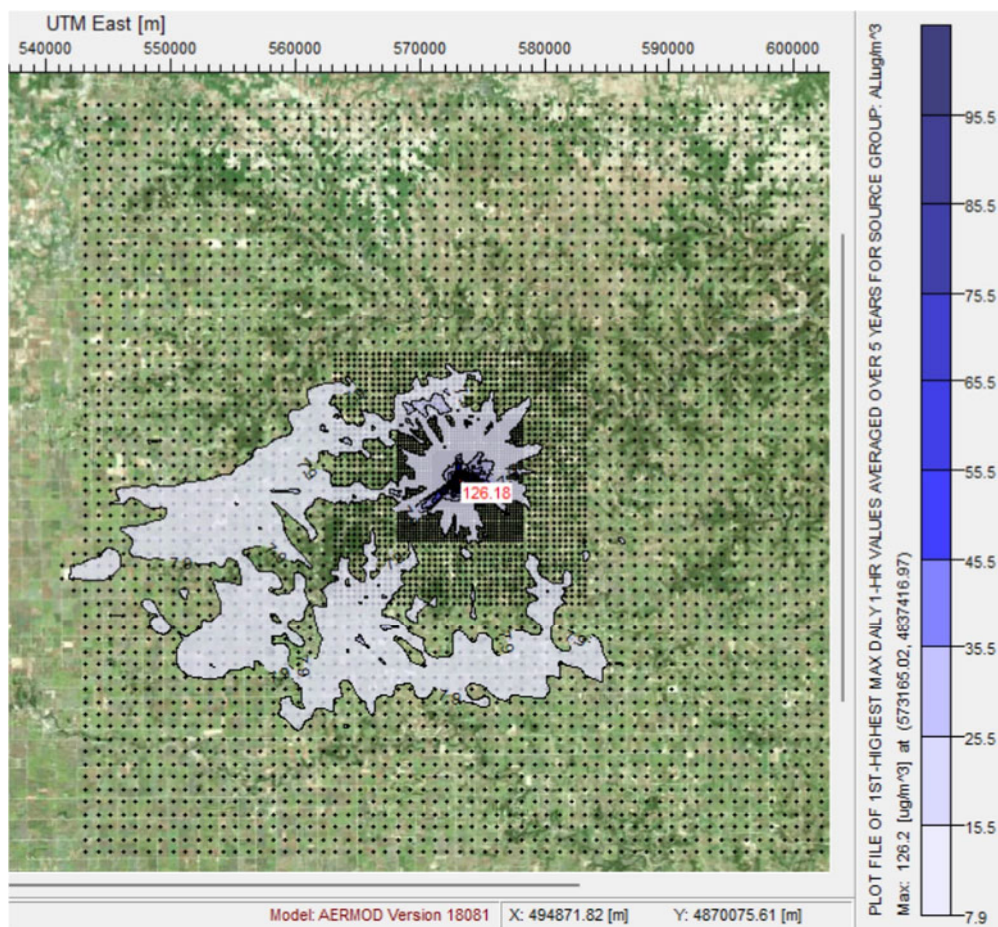


SIL – Scenario 1 (using STRU22): Annual SO<sub>2</sub>

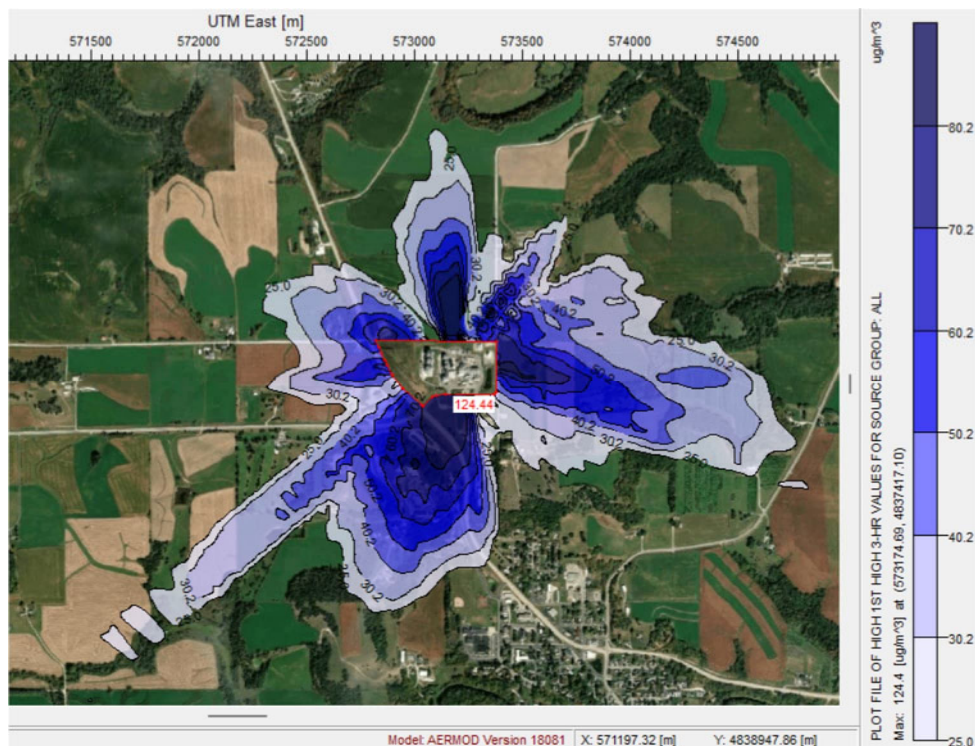




## SIL – Scenario 2 (using STRU57): 1-hr SO<sub>2</sub>

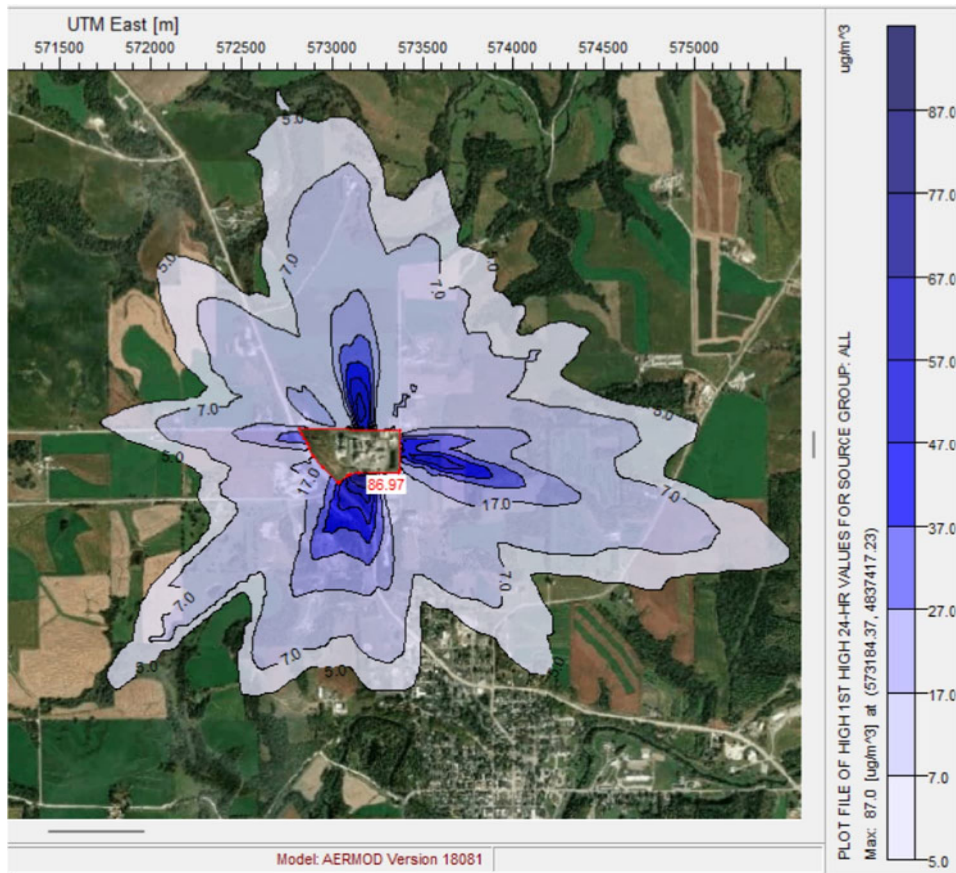


## SIL – Scenario 2 (using STRU57): 3-hr SO<sub>2</sub>

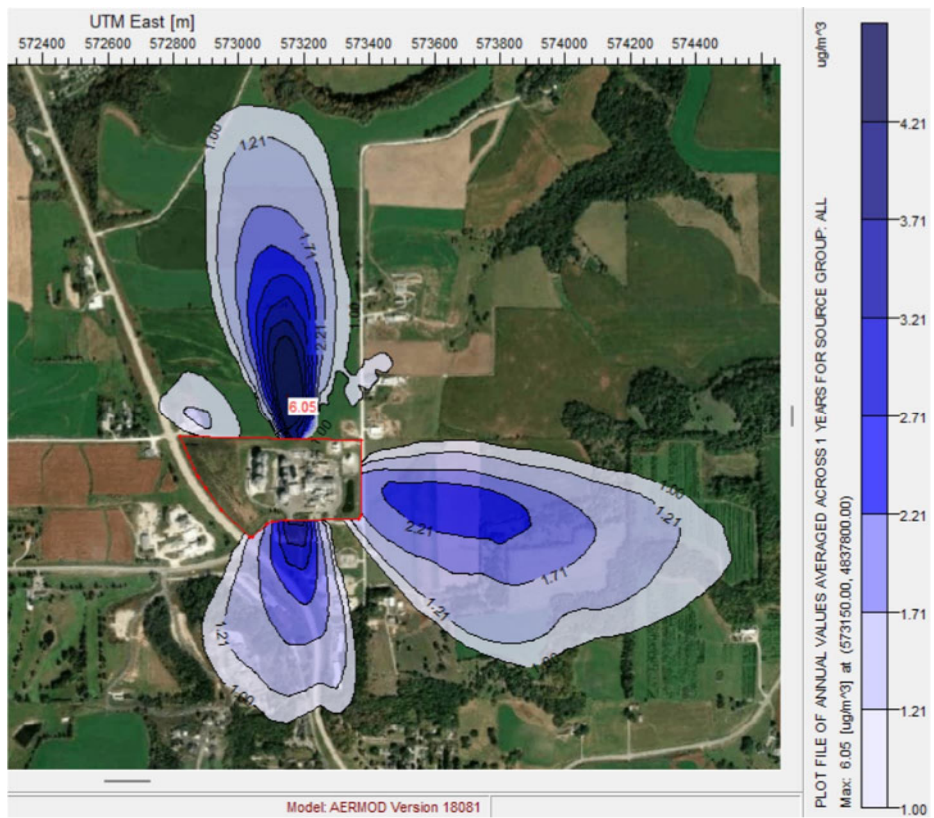




**SIL – Scenario 2 (using STRU57): 24-hr SO<sub>2</sub>**

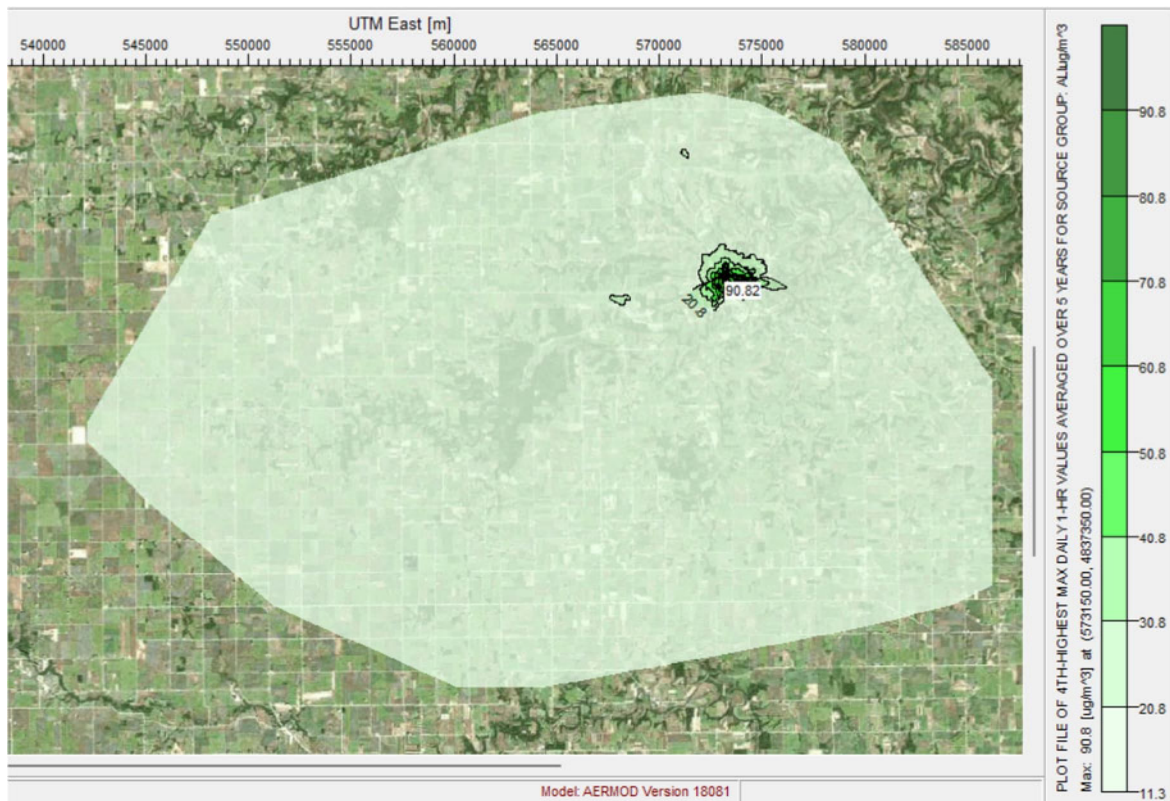


**SIL – Scenario 2 (using STRU57): Annual SO<sub>2</sub>**

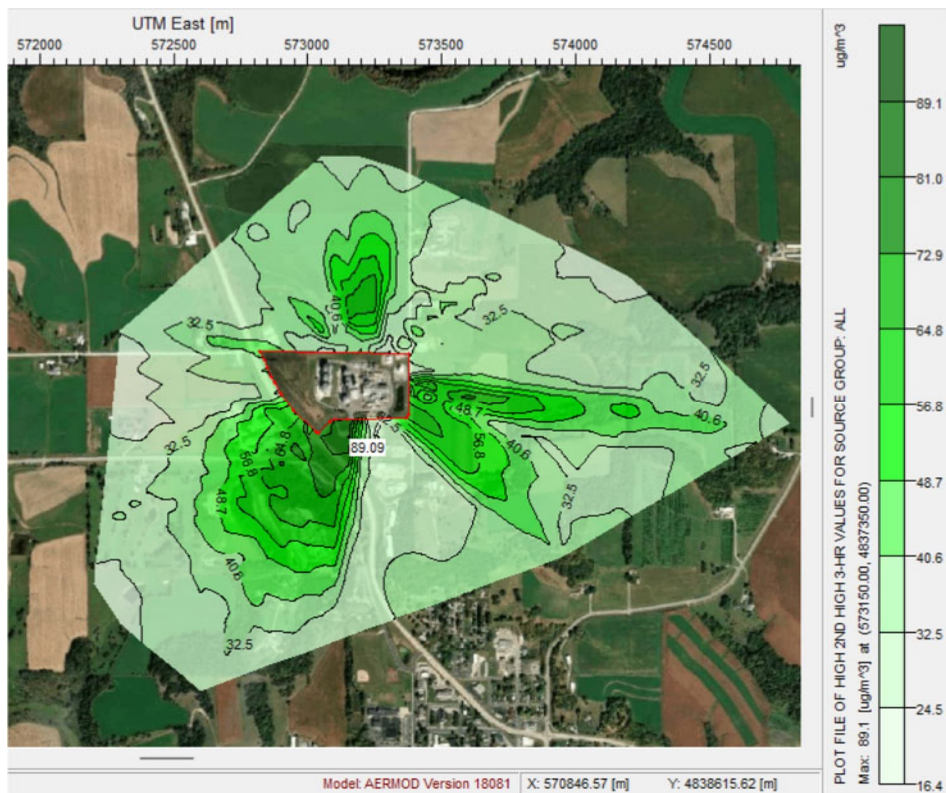




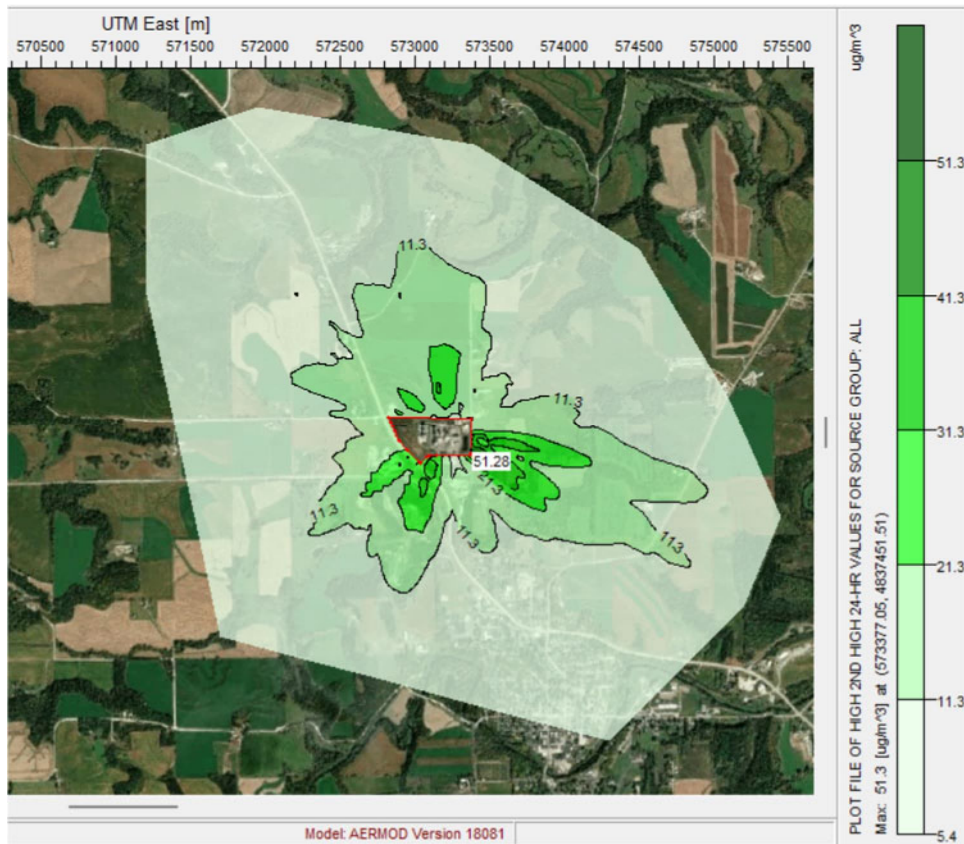
## NAAQS – Scenario 1: (using STRU22): 1-hr SO<sub>2</sub>



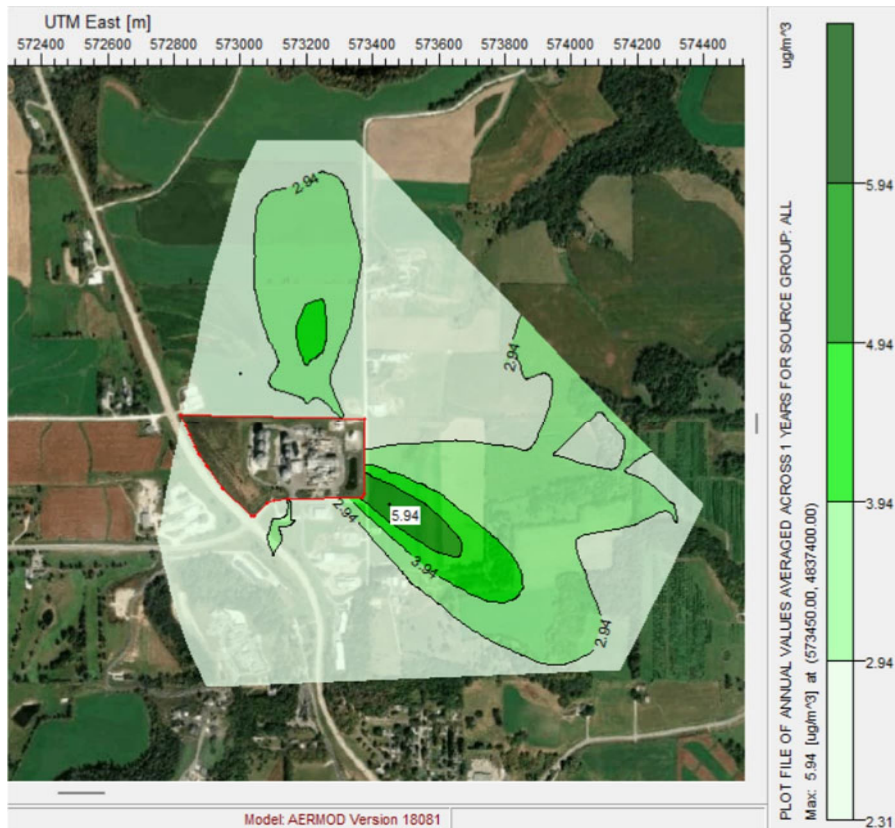
## NAAQS – Scenario 1 (using STRU22): 3-hr SO<sub>2</sub>



## NAAQS – Scenario 1 (using STRU22): 24-hr SO<sub>2</sub>

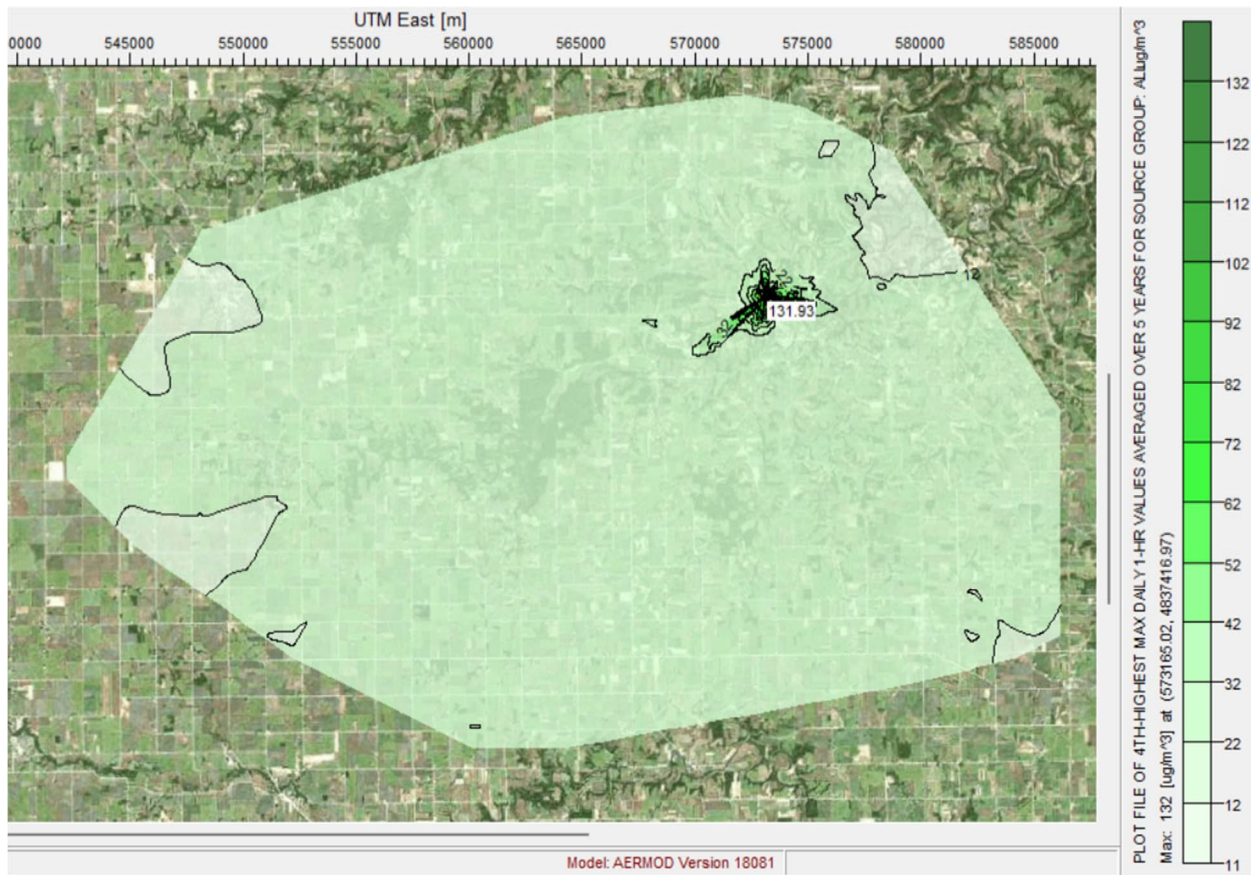


## NAAQS – Scenario 1 (using STRU22): Annual SO<sub>2</sub>

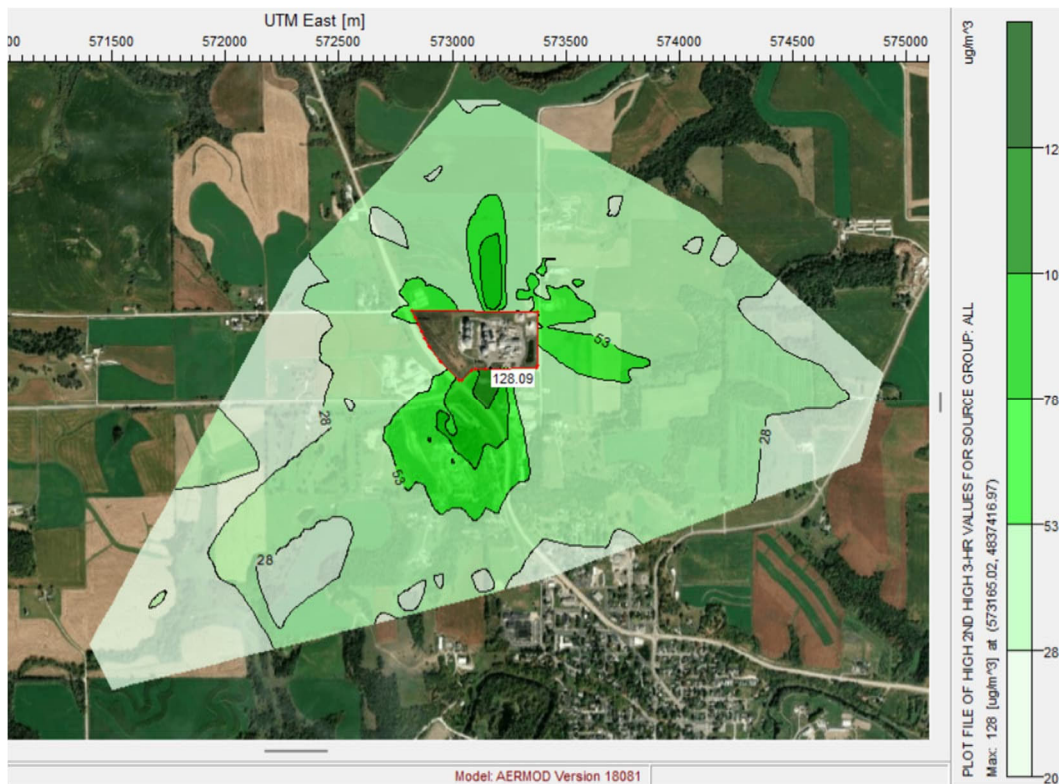




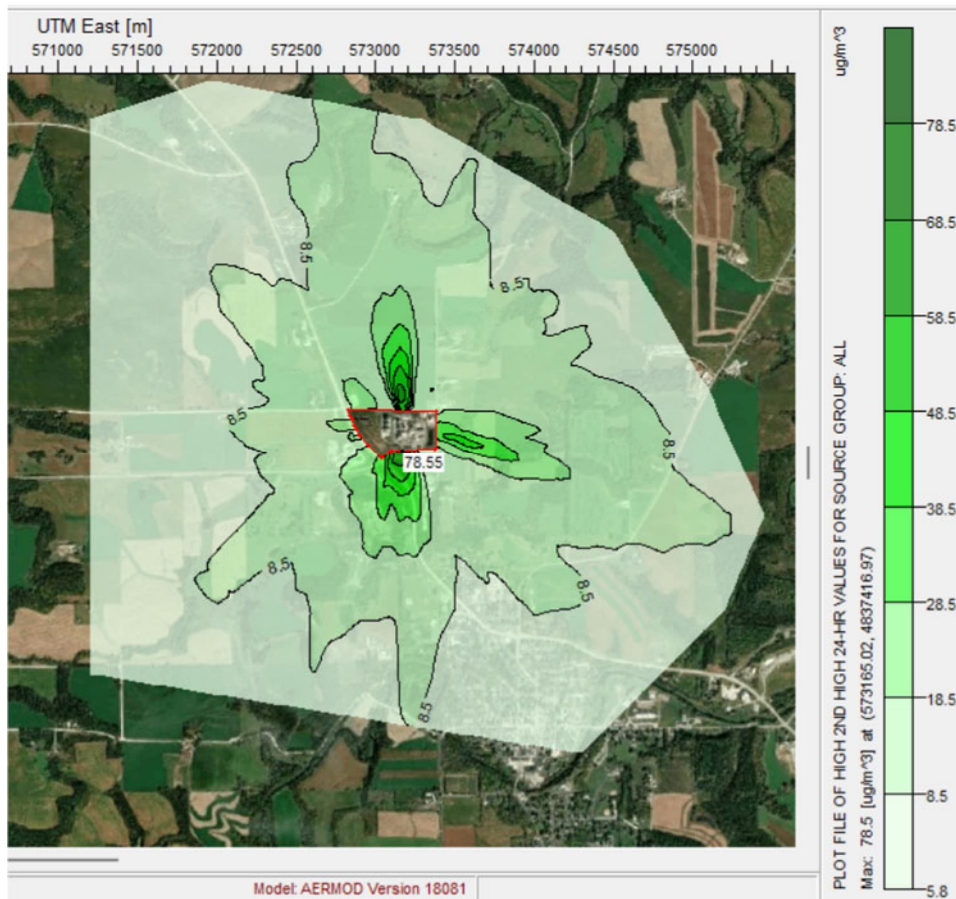
## NAAQS – Scenario 2 (using STRU57): 1-hr SO<sub>2</sub>



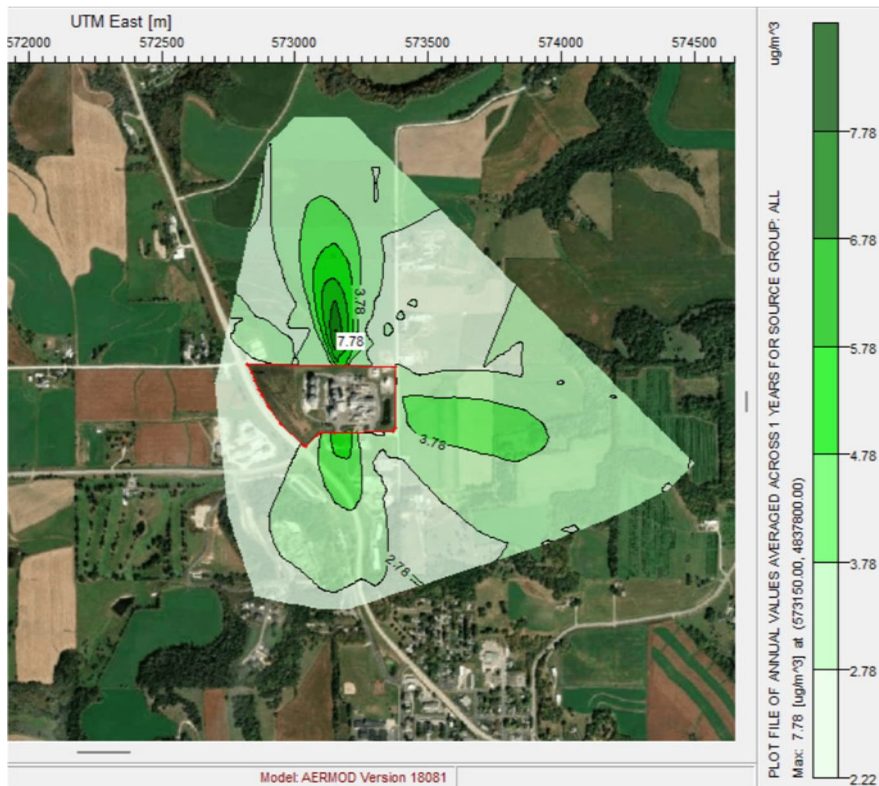
## NAAQS – Scenario 2 (using STRU57): 3-hr SO<sub>2</sub>



## NAAQS – Scenario 2 (using STRU57): 24-hr SO<sub>2</sub>



## NAAQS – Scenario 2 (using STRU57): Annual SO<sub>2</sub>



**Part 3: Updated AQ2-41 Point Source Parameters Tab (cell change highlighted in yellow)**

#### **Part 4: Updated AERMAP Files and 1-hr SO<sub>2</sub> SIL and NAAQS receptor files**



Ambient Air Boundary Control Strategy Plan  
POET Biorefining – Preston, LLC  
2019

The facility property boundary is modeled as the ambient air boundary. The north boundary and the northern portion of the eastern boundary of the facility is fenced as shown in Figure 3. The property boundary along the western boundary (Hwy 52), the southern boundary (Industrial Drive) and the southern portion of the eastern boundary (Ivy Road) along with the fenced property boundary of the facility will be monitored by staff via onsite cameras at least once per 24-hour period during plant operation to restrict public access to the facility. Cameras will be installed at the locations shown in Figure 3. Once each 24-period, POET will document that surveillance occurred. Additionally, signs will be posted every 1000 feet along the western, southern and eastern property boundary warning 'no trespassing'. The combination of these efforts sufficiently restricts the general public from accessing the facility property boundary. Any breach will be reported as a deviation in the semi-annual deviation report required by the facility's air permit. The deviation report will identify any additional steps that were taken to control access to that portion of the property.

Figure 1 – Ambient Air Boundary Control Strategy Plan Map

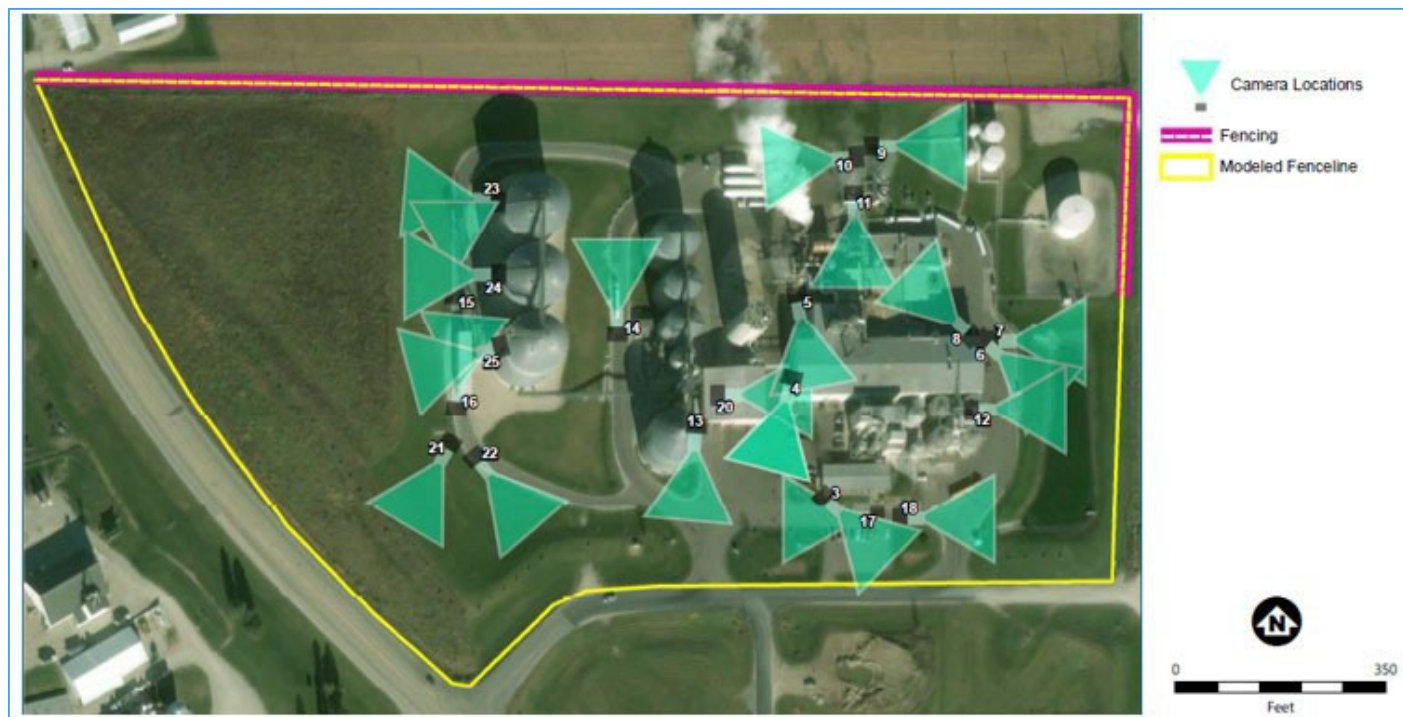
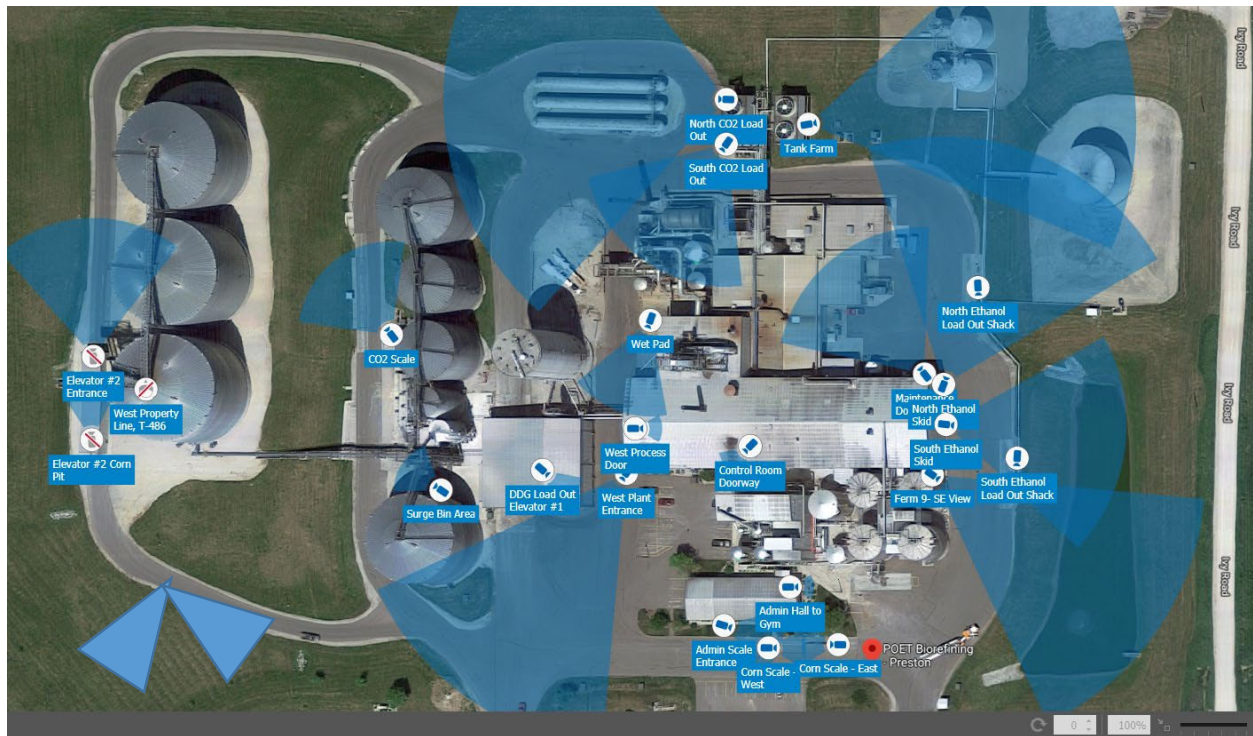


Figure 2 - Actual Camera Angles Post-Installation



Note: The camera symbols in the attached figure are solely to show the locations and the direction of the cameras, but do not represent the viewing angle or any camera specifications.



## Updates

| Year | Month   | Day | Comments                                                                                                | Who              |
|------|---------|-----|---------------------------------------------------------------------------------------------------------|------------------|
| 2022 | January | 3rd | Two more cameras added on the drive from grains receiving 2. One facing SW and other down the road (SE) | Devin Gilbertson |
| 2023 | January | 4th | No changes                                                                                              | Devin Gilbertson |
| 2024 | January | 2nd | No changes                                                                                              | Devin Gilbertson |
| 2025 | January | 7th | No changes                                                                                              | Devin Gilbertson |

**Attachment 5 - Notice of Non-Compliance/Notice of Compliance**

October 1, 2024

Sent via email

Chris Hanson – General Manager  
POET Biorefining - Preston  
PO Box 440  
Preston, MN 55965-0440

RE: Notice of Noncompliance and Notice of Compliance for the May 7-9, 2024, and August 1, 2024, Single HAPs, Carbon Monoxide, Nitrogen Oxides, PM < 10 micron, PM < 2.5 micron, Particulate Matter, Sulfur Dioxide and Volatile Organic Compounds Performance Test of the 3-Chambered RTO (TREA14), Fermentation Scrubber (TREA19), Flour Receiver and Fluid Bed Baghouse Pursuant to Air Emission Permit Number 04500049

Dear Chris Hanson:

Minnesota Pollution Control Agency (MPCA) performance test staff reviewed the final test report for the performance test conducted at POET Biorefining - Preston located in Preston, Minnesota. The test report was submitted June 18, 2024, and September 10, 2024.

### Summary of performance test results

| Emission unit tested                  | Limitation basis<br>Pollutant and emission limit                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Test result                                                                         | Compliance status |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------|
| Flour Receiver<br>STRU 18<br>EQUI 213 | Particulate Matter <= 0.140 pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                            | Particulate Matter<br>0.154<br>pounds per hour                                      | Noncompliant      |
|                                       | PM < 10 micron <= 0.14 pounds per hour 3-hour average. [Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                             | PM < 10 micron<br>0.154<br>pounds per hour                                          | Noncompliant      |
|                                       | PM < 2.5 micron <= 0.14 pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                | PM < 2.5 micron<br>0.154<br>pounds per hour                                         | Noncompliant      |
|                                       | The Permittee shall operate and maintain EQUI 213 such that it achieves an outlet concentration rate for Particulate Matter, PM < 10 micron and PM < 2.5 micron PM < 10 micron <= 0.0040 grains per dry standard cubic foot. [Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subps. 1-2(A), Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] | PM, PM < 10 micron, PM < 2.5 micron<br>0.0053<br>grains per dry standard cubic foot | Noncompliant      |

| Emission unit tested                          | Limitation basis<br>Pollutant and emission limit                                                                                                                                                                                                                                                                                                                                                                                                          | Test result                                                     | Compliance status |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------|
| Flour Receiver<br>STRU 18<br>EQUI 213         | Particulate Matter $\leq$ 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)] (Calculated limit 0.10 gr/dscf)                                                                                                                                                                 | Particulate Matter<br>0.0053 grains per dry standard cubic foot | Compliant         |
|                                               | Pressure Drop $\geq$ 0.05 and $\leq$ 6.0 inches of water column whenever emissions are venting to the fabric filter, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3. [Minn. R. 7007.0800, subp. 14, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                          | Pressure Drop<br>0.8 inches of water column                     | Compliant         |
|                                               | Short-term Process Throughput: less than or equal to 81.7 tons/hour 3-hr average combined flour throughput based on slurry density measurements (D4) , volumetric flow meters (V1-V3, W/F), preblend density measurements (D1) to be used in the calculations.                                                                                                                                                                                            | Process Throughput<br>77.0 tons per hour                        | Compliant         |
| Fluid Bed<br>CE Stack<br>(TREA 22)<br>STRU 20 | Volatile Organic Compounds $\leq$ 8.0 pounds per hour 3-hour block average as total mass VOC. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subps. 1-2(A), Minn. R. 7011.7000, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2] | Volatile Organic Compounds<br>2.78 pounds per hour              | Compliant         |
|                                               | HAPs - Single: The Permittee must conduct performance test: Due before 8/10/2024 every 60 months to verify the emission factors for speciated HAPs. The first test is due by the date specified and all subsequent tests are due by the end of each 60-month period following that date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                           | Acetaldehyde<br>0.06 pounds per hour                            | Verified          |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Acrolein<br>0.06 pounds per hour                                | Verified          |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Formaldehyde<br>0.005 pounds per hour                           | Verified          |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Methanol<br>0.02 pounds per hour                                | Verified          |
|                                               | Short-term Process Throughput Limit: less than or equal to 715 gallons per minute 3-hr block average beer feed rate to the distillation process unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3. [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                | Process Throughput<br>649.8 gallons per minute                  | Compliant         |
|                                               | Pressure Drop $\geq$ 0.01 and $\leq$ 4.0 inches of water (Pressure Drop Range Limit), unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3. [Minn. R. 7011.0080, Minn. R. 7017.2025, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                               | Pressure Drop<br>0.05 inches of water                           | Compliant         |

| <b>Emission unit tested</b>            | <b>Limitation basis<br/>Pollutant and emission limit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Test result</b>                                            | <b>Compliance status</b> |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------|
| Fermentation Scrubber (TREA 19) STRU 8 | Volatile Organic Compounds <= 12.0 pounds per hour as total mass of VOC, when venting directly to atmosphere. [40 CFR 63.2, CAAA of 1990, Minn. R. 7007.0100, subps. 7(A)&(B), Minn. R. 7007.0800, subps. 1-2, Minn. R. 7011.7000, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.0800, subd. 9, Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                              | Volatile Organic Compounds<br>8.11 pounds per hour            | Compliant                |
|                                        | OS 2 - HAPs - Single: The Permittee must conduct performance test to verify the emission factors for speciated HAPs. [CAAA of 1990, Minn. R. 7007.0100, subps. 7(A) & (B), Minn. R. 7007.0800, subps. 1-2, Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C), Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 63.2]                                                                            | Acetaldehyde<br>0.03 pounds per hour                          | Verified                 |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Acrolein<br>0.01 pounds per hour                              | Verified                 |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Formaldehyde<br>0.002 pounds per hour                         | Verified                 |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Methanol<br>0.003 pounds per hour                             | Verified                 |
|                                        | Volatile Organic Compounds >= 95.0 percent control efficiency; or if the inlet is less than 200 ppm of VOC, then less than or equal to 20 ppm VOC. [CAAA of 1990, Minn. R. 7007.0100, subp. 7, Minn. R. 7007.0800, subp. 1, Minn. R. 7007.0800, subp. 2, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2] | Volatile Organic Compounds<br>98.3 percent control efficiency | Compliant                |
| Packed-Gas Adsorption Column TREA 19   | Short-term Process Throughput Limit for STRU 8, OS 1 and STRU 8 OS2, TREA 19, OS 1 and TREA 19 OS2: less than or equal to 715 gallons per minute 3-hr average beer feed rate to the distillation process unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                                              | Process Throughput<br>650.3 gallons per minute                | Compliant                |
|                                        | TREA 19 Operating Scenario 2 Scrubber Additive Flow Application Rate >= 2.8 gallons per hour (Additive Rate Limit) whenever emissions are vented to STRU 8 after control by TREA 19 (with or without venting to the CO2 skid) (STRU 8 OS1 and OS2), unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2] | Flow Application Rate<br>1.5 gallons per hour                 | Verified                 |

| <b>Emission unit tested</b>             | <b>Limitation basis<br/>Pollutant and emission limit</b>                                                                                                                                                                                                                                                                                                                                                  | <b>Test result</b>                                      | <b>Compliance status</b> |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------|
| Packed-Gas Adsorption Column<br>TREA 19 | TREA 19 Operating Scenario 2 Water flow rate $\geq 37.8$ gallons per minute 3-hour average when emissions are vented to STRU 8 after control by TREA 19 (with or without venting to the CO2 skid) (STRU 8 OS1 and OS2), unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3. [Minn. R. 7017.2025, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] | Water flow rate 27.0 gallons per minute                 | Verified                 |
|                                         | Pressure Drop $\geq 1.0$ and $\leq 12.0$ inches of water (Pressure Drop Range Limit) as determined during the 12/1/17 performance test, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3. [Minn. R. 7017.2025, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                 | Pressure Drop 6.0 inches of water                       | Compliant                |
| 3-Chambered RTO (TREA14)<br>STRU 22     | Carbon Monoxide $\leq 13.1$ pounds per hour. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                   | Carbon Monoxide 11.2 pounds per hour                    | Compliant                |
|                                         | Carbon Monoxide $\leq 100$ parts per million or 90 percent reduction. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A) & (B), Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                         | Carbon Monoxide 64.94 parts per million                 | Compliant                |
|                                         | Nitrogen Oxides: The Permittee shall conduct a performance test due 4/9/2030 and every 120 months thereafter to verify the emission factor of 0.066 lb/MMBtu. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                     | Nitrogen Oxides 0.0727 pounds per million Btu           | Verified                 |
|                                         | Sulfur Dioxide $\leq 6.85$ pounds per hour. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                    | Sulfur Dioxide 0.78 pounds per hour                     | Compliant                |
|                                         | Sulfur Dioxide $\leq 2.0$ pounds per million Btu heat input when burning liquid fossil fuels. The potential to emit from the unit is 0.0006 lb/MMBtu due to equipment design and allowable fuels. [Minn. R. 7011.0610, subp. 2(B)]                                                                                                                                                                        | Sulfur Dioxide 0.0028 pounds per million Btu heat input | Compliant                |
|                                         | Volatile Organic Compounds $\leq 12.0$ pounds per hour 12-month rolling average as mass. [CAAA of 1990, Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subps. 1-2(A), Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                           | Volatile Organic Compounds 6.43 pounds per hour         | Compliant                |

| Emission unit tested                   | Limitation basis<br>Pollutant and emission limit                                                                                                                                                                                                                                                                                                                                                                   | Test result                                                    | Compliance status |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------|
| 3-Chambered RTO (TREA14) STRU 22 SV029 | HAPs - Single: The Permittee must conduct performance test: Due before 4/9/2025 every 60 months to verify the emission factors for speciated HAPs. The first test is due by the date specified and all subsequent tests are due by the end of each 60-month period following that date. [Minn. R. 7017.2020, subp. 1, Minn. R. 7017.2025, subp. 3(C)]                                                              | Acetaldehyde<br>0.56 pounds per hour                           | Verified          |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                    | Acrolein<br>0.03 pounds per hour                               | Verified          |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                    | Formaldehyde<br>0.05 pounds per hour                           | Verified          |
|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                    | Methanol<br>0.08 pounds per hour                               | Verified          |
|                                        | Particulate Matter <= 0.30 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent of either Minn. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to EQUI 20 and EQUI 61. [Minn. R. 7011.0610, subp. 1(A)(1)] (Calculated limit 0.057 gr/dscf)                                                                           | Particulate Matter<br>0.017 grains per dry standard cubic foot | Compliant         |
|                                        | Particulate Matter <= 12.0 pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                              | Particulate Matter<br>5.6 pounds per hour                      | Compliant         |
|                                        | PM < 10 micron <= 12.0 pounds per hour 3-hour average. [Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                              | PM < 10 micron<br>5.6 pounds per hour                          | Compliant         |
|                                        | PM < 2.5 micron <= 12.0 pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                 | PM < 2.5 micron<br>5.6 pounds per hour                         | Compliant         |
|                                        | Short-term Process Throughput Limit: less than or equal to 715 gallons per minute 3-hr block average beer feed rate to the distillation process unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3. [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2]                | Process Throughput<br>650 gallons per minute                   | Compliant         |
|                                        | Short-term Process Throughput Limit: less than or equal to 142.3 gallons per minute 3-hr average ethanol production rate based on feed rate to ethanol storage unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3. [Minn. R. 7017.2025, subp. 3, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2] | Process Throughput<br>130.6 gallons per minute                 | Compliant         |

| <b>Emission unit tested</b>     | <b>Limitation basis<br/>Pollutant and emission limit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Test result</b>                                                            | <b>Compliance status</b> |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------|
| Thermal Oxidizer TREA 14        | The Permittee shall operate and maintain control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds $\geq 95$ percent control efficiency (VOC as mass) or less than or equal to 10 parts per million. [CAAA of 1990, Minn. R. 7007.0100, subp. 7, Minn. R. 7007.0800, subp. 1, Minn. R. 7007.0800, subp. 2, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: 40 CFR pt. 52, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] | Volatile Organic Compounds 98.9 percent control efficiency                    | Compliant                |
|                                 | Temperature $\geq 1634$ degrees Fahrenheit measured continuously in the Combustion Chamber unless a new minimum is required to be set pursuant to Minn. R. 7017.2025, subp. 3. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                    | Temperature 1648 degrees Fahrenheit                                           | Compliant                |
| Flour Receiver STRU 18 EQUI 213 | Particulate Matter $\leq 0.140$ pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                   | Particulate Matter 0.0064 pounds per hour                                     | Compliant                |
| August 1, 2024 test             | PM < 10 micron $\leq 0.14$ pounds per hour 3-hour average. [Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                    | PM < 10 micron 0.0064 pounds per hour                                         | Compliant                |
|                                 | PM < 2.5 micron $\leq 0.14$ pounds per hour 3-hour average. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                                                                                                                                                                                                                                                                                                                                                       | PM < 2.5 micron 0.0064 pounds per hour                                        | Compliant                |
|                                 | The Permittee shall operate and maintain EQUI 213 such that it achieves an outlet concentration rate for Particulate Matter, PM < 10 micron and PM < 2.5 micron $\leq 0.0040$ grains per dry standard cubic foot. [Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subps. 1-2(A), Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]                                                       | PM, PM < 10 micron, PM < 2.5 micron 0.0002 grains per dry standard cubic foot | Compliant                |
|                                 | Particulate Matter $\leq 0.30$ grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)] (Calculated limit 0.10 gr/dscf)                                                                                                                                                                                                                                                    | Particulate Matter 0.0002 grains per dry standard cubic foot                  | Compliant                |



| Emission unit tested                  | Limitation basis<br>Pollutant and emission limit                                                                                                                                                                                                                                                                 | Test result                               | Compliance status |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------|
| Flour Receiver<br>STRU 18<br>EQUI 213 | Pressure Drop $\geq 0.05$ and $\leq 6.0$ inches of water column whenever emissions are venting to the fabric filter, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3. [Minn. R. 7007.0800, subp. 14, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000] | Pressure Drop 0.23 inches of water column | Compliant         |
| August 1, 2024 test                   | Short-term Process Throughput: less than or equal to 81.7 tons/hour 3-hr average combined flour throughput based on slurry density measurements (D4) , volumetric flow meters (V1-V3, W/F), preblend density measurements (D1) to be used in the calculations.                                                   | Process Throughput 75.5 tons per hour     | Compliant         |

**In addition, please be advised of the following:**

1. It is important that you give this matter your full attention. The MPCA will consider your response in determining whether and what level of enforcement action is appropriate. Please note that such enforcement action may require payment of a monetary penalty. If a monetary penalty is required, the amount of time from the date of the failed test to the date of the passed test, or other compliance demonstration, will be taken into consideration. It is in the Regulated Party's best interest to demonstrate compliance with its permitted emissions limits through a passed retest or other compliance demonstration as soon as possible after a failed test, and provide this documentation to the MPCA.

2. The Regulated Party shall comply with the appropriate option:

**Option A:**

- i. Conduct a retest for Particulate Matter, PM < 10 micron and PM < 2.5 micron on or before 30 days after receipt of this letter. **(A compliant retest was performed on August 1, 2024)**
  - ii. Provide advance written notice of testing, submit a test plan, and schedule a pretest meeting at least 21 days prior to the retest date. The pretest meeting shall be held at least seven working days prior to the date of the retest. **(A test plan was submitted on July 24, 2024, and approved on July 25, 2024. A pretest meeting was held on July 10, 2024)**
  - iii. Submit the final performance test results within 45 days of conducting the retest. **(The test report was submitted on September 10, 2024)**
3. The following operating limit applies pursuant to Minn. R. 7017.2025, subp. 3. This limit supersedes any previous operating limit in the permit and does not serve to relax any other limit or requirement. This letter grants preliminary instruction to operate at the new rate. The limit is final upon issuance of a permit amendment incorporating the change.

| Emission unit                           | Operating limit and averaging method                                                                                             |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Fermentation Scrubber<br>STRU 8         | TREA 19 Operating Scenario 2 Water flow rate $\geq 26.7$ gallons per minute 3-hour average (Lowest one hour average during test) |
| Packed-Gas Adsorption Column<br>TREA 19 | TREA 19 Operating Scenario 2 Scrubber Additive Flow Application Rate $\geq 1.5$ gallons per hour (Additive Rate Limit)           |

The Regulated Party may not operate an emission unit at a less stringent rate than that listed in the table above unless it conducts a performance test at an alternate rate, MPCA performance test staff determines compliance at that rate for the emission unit, and a Notice of Compliance with approval to operate at the new rate is received.

Ongoing compliance with the operating limit will be determined using the same data acquisition and reduction as was used during the performance test. If an operating limit is exceeded, it must be reported in accordance with the deviation reporting requirements of Minn. R. 7007.0800, subp. 6(A).

4. Note that the results of the retest will be used in conjunction with the results of this test, in revising the set operating limits once compliance is confirmed by MPCA performance test staff. If the retest is conducted at different operating conditions, those conditions will impact the operating limits.
5. The Emission Inventory rule, Minn. R. 7019.3000 to 7019.3100, requires the calculation of emissions based on an established hierarchy. In the absence of Continuous Emission Monitor data meeting the requirements of Minn. R. 7019.3040, a performance test must be used. When a performance test for particulate matter, carbon monoxide, nitrogen oxides, sulfur oxides, volatile organic compounds or lead is conducted and meets the requirements of Minn. R. 7017.2001 to 7017.2060, the results must be used to calculate emissions, unless specified otherwise by Minn. R. 7019.3000 to 7019.3100. It is the Regulated Party's responsibility to ensure the results of performance tests are accounted for in their annual emission inventory submittal. Note that the final decision to approve the emission factor for any given inventory year will be made by the MPCA Emission Inventory Coordinator.
6. The tests were conducted more than 60 days prior to the performance test due dates in the permit. Future performance tests will be reset based on this test date of May 9, 2024, at the frequency stated in the permit. The new due date applies to all emission units and associated pollutants listed in this letter.

MPCA enforcement staff has been informed of the status of noncompliance for Particulate Matter, PM < 10 micron and PM < 2.5 micron. MPCA enforcement staff will delay enforcement action for the above listed noncompliance until **after** the results of the retest have been submitted and reviewed. After review of the results of the original test along with the results of the retest, MPCA enforcement staff will determine the appropriate enforcement action.

MPCA enforcement staff identified the following noncompliance. Please review the following descriptions of the current noncompliance for accuracy.

**Violation 1 Description of Noncompliance:**

As documented in the stack test results, on May 7, 2024, the Regulated Party conducted a performance test for Particulate Matter on the Flour Receiver (STRU 18, EQUI 213) at the Regulated Party's Preston, Minnesota facility. The results of this test showed that STRU 18 was emitting Particulate Matter at a rate of 0.154 pounds per hour. This emission rate is in excess of the permitted limit of 0.140 pounds per hour.

**Violation 2 Description of Noncompliance:**

As documented in the stack test results, on May 7, 2024, the Regulated Party conducted a performance test for PM < 10 micron on the Flour Receiver (STRU 18, EQUI 213) at the Regulated Party's Preston, Minnesota facility. The results of this test showed that STRU 18 was emitting PM < 10 micron at a rate of 0.154 pounds per hour. This emission rate is in excess of the permitted limit of 0.140 pounds per hour.

**Violation 3 Description of Noncompliance:**

As documented in the stack test results, on May 7, 2024, the Regulated Party conducted a performance test for PM < 2.5 micron on the Flour Receiver (STRU 18, EQUI 213) at the Regulated Party's Preston, Minnesota facility. The results of this test showed that STRU 18 was emitting PM < 2.5 micron at a rate of 0.154 pounds per hour. This emission rate is in excess of the permitted limit of 0.140 pounds per hour.

**Violation 4 Description of Noncompliance:**

As documented in the stack test results, on May 7, 2024, the Regulated Party conducted a performance test for Particulate Matter, PM < 10 micron and PM < 2.5 micron on the Flour Receiver (STRU 18, EQUI 213) at the Regulated Party's Preston, Minnesota facility. The results of this test showed that EQUI 213 was emitting Particulate Matter, PM < 10 micron and PM < 2.5 micron at a rate of 0.0053 grains per dry standard cubic foot. This emission rate is in excess of the permitted limit of 0.0040 grains per dry standard cubic foot.

The above noncompliance has been recorded and documented by the MPCA. If you believe that any of the information presented above is incorrect or does not constitute a violation, please respond in writing and include in with the final retest results. The response should contain a detailed explanation in support of your version of the events in question.

This letter and your response do not preclude the MPCA from taking further action with respect to the above noncompliance. The MPCA reserves the right to pursue any and all remedies available under Minn. Stat. §§ 115.071, 116.072, 116.073, and 609.671, and all applicable rules or permits for any violation cited in this letter.

Please submit responses to this letter directly to MPCA enforcement Marin Morrell 651-575-2489. If you have questions or comments regarding the content of this letter, please contact me at 651-757-2757.

Your continued cooperation is appreciated.

Sincerely,

*Curtis H Stock*

*This document has been electronically signed.*

Curtis H. Stock  
State Program Administrator  
Industrial Division

Chris Hanson  
Page 10  
October 1, 2024

CHS:cs

cc: Ross Provow, MPCA  
Marin Morrell, MPCA  
Rachel Studanski, MPCA  
Andy Place, MPCA  
Jennifer Carlson, MPCA  
Activity ID REP20240006 @ 715

## **Attachment 6 - PM<sub>10</sub> and SO<sub>2</sub> Modeling Parameters**

**Table 1: Modeled Parameters Point Sources (PM<sub>10</sub> & SO<sub>2</sub>)**

| Permit ID | Model ID   | Pollutant        | Averaging Time     | Operating Scenario | Release Type | Easting [m] | Northing [m] | Base Elevation [m] |
|-----------|------------|------------------|--------------------|--------------------|--------------|-------------|--------------|--------------------|
| STRU33    | PBPSTRU33  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINTHOR     | 573,133.70  | 4,837,509.40 | 337.94             |
| STRU34    | PBPSTRU34  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,250.38  | 4,837,564.74 | 333.14             |
| STRU16    | PBPSTRU16  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,354.33  | 4,837,561.81 | 329.25             |
| STRU17    | PBPSTRU17  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,178.48  | 4,837,536.14 | 334.71             |
| STRU1     | PBPSTRU1   | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,250.48  | 4,837,558.24 | 332.9              |
| STRU43    | PBPSTRU43  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,243.78  | 4,837,526.24 | 331.66             |
| STRU20    | PBPSTRU20  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,233.96  | 4,837,551.82 | 332.94             |
| STRU29    | PBPSTRU29  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,127.96  | 4,837,515.92 | 338.47             |
| STRU30    | PBPSTRU30  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,127.96  | 4,837,520.82 | 338.44             |
| STRU31    | PBPSTRU31  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,127.86  | 4,837,525.62 | 338.4              |
| STRU32    | PBPSTRU32  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,127.86  | 4,837,530.52 | 338.21             |
| STRU49    | PBPSTRU49  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,127.86  | 4,837,535.42 | 337.94             |
| STRU50    | PBPSTRU50  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,180.90  | 4,837,584.50 | 334.13             |
| STRU23    | PBPSTRU23  | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINTHOR     | 573,038.21  | 4,837,529.00 | 341.69             |
| FUGI15A   | PBPFUGI15A | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,231.10  | 4,837,613.17 | 335.57             |
| FUGI15B   | PBPFUGI15B | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,247.10  | 4,837,613.17 | 335.25             |
| FUGI15C   | PBPFUGI15C | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,247.10  | 4,837,620.17 | 335.66             |
| FUGI15D   | PBPFUGI15D | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,231.10  | 4,837,620.17 | 336.14             |
| FUGI16A   | PBPFUGI16A | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,231.10  | 4,837,627.17 | 336.74             |
| FUGI16B   | PBPFUGI16B | PM <sub>10</sub> | 24-hr              | 1 / 2              | POINT        | 573,247.10  | 4,837,627.17 | 336.22             |
| STRU22    | PBPSTRU22  | SO <sub>2</sub>  | 1-, 3-, 24-hr, Ann | 1                  | POINT        | 573,199.57  | 4,837,590.99 | 333.15             |
| STRU57    | PBPSTRU57  | SO <sub>2</sub>  | 1-, 3-, 24-hr, Ann | 2                  | POINT        | 573,180.90  | 4,837,584.50 | 334.13             |
| STRU20    | PBPSTRU20  | SO <sub>2</sub>  | 1-, 3-, 24-hr, Ann | 1 / 2              | POINT        | 573,235.01  | 4,837,552.75 | 333.11             |
| STRU17    | PBPSTRU17  | SO <sub>2</sub>  | 1- 3- 24-hr        | 1 / 2              | POINT        | 573,178.24  | 4,837,536.64 | 334.66             |
| STRU1     | PBPSTRU1   | SO <sub>2</sub>  | 1-, 3-, 24-hr, Ann | 1 / 2              | POINT        | 573,250.38  | 4,837,564.74 | 332.81             |
| STRU34    | PBPSTRU34  | SO <sub>2</sub>  | 1-, 3-, 24-hr, Ann | 1 / 2              | POINT        | 573,250.48  | 4,837,558.24 | 332.81             |
| STRU17    | PBPSTRU17  | SO <sub>2</sub>  | Ann                | 1 / 2              | POINT        | 573,178.24  | 4,837,536.64 | 334.66             |

**Table 2: Modeled Parameters Point Sources continued (PM<sub>10</sub> & SO<sub>2</sub>)**

| Permit ID | Emission Rate [lb/hr] | Emission Rate [g/sec] | Height [m] | Exit Temp [K] | Exit Velocity [m/s] | Diameter [m] | Flow Rate [ACFM] | Description                     |
|-----------|-----------------------|-----------------------|------------|---------------|---------------------|--------------|------------------|---------------------------------|
| STRU33    | 2.25E-01              | 2.83E-02              | 3.048      | 0             | 32.0554             | 0.405        | 8,750            | Grain Receiving and Handling #1 |
| STRU34    | 4.68E-01              | 5.90E-02              | 9.144      | 444.261       | 30.0765             | 0.7742       | 30,000           | Boiler #1                       |
| STRU16    | 4.18E-04              | 5.27E-05              | 6.1        | 1033.15       | 30.027              | 0.1          | 500              | Ethanol Loading Rack            |
| STRU17    | 6.86E-02              | 8.64E-03              | 35.052     | 0             | 12.9361             | 0.305        | 2,000            | DDGS Storage Silo               |
| STRU1     | 5.46E-01              | 6.89E-02              | 9.144      | 466.483       | 19.2273             | 1.0607       | 36,000           | Boiler #2                       |
| STRU43    | 1.41E-01              | 1.77E-02              | 4.572      | 299.817       | 26.519              | 0.305        | 4,100            | Flour Receiver                  |
| STRU20    | 2.74E+00              | 2.06E+00              | 0.2592     | 319.261       | 12.334              | 1.396        | 40,000           | DDG Fluid Bed Cooler            |
| STRU29    | 3.08E-01              | 3.89E-02              | 6.096      | 0             | 45.9002             | 0.396        | 12,000           | Hammermill 1                    |
| STRU30    | 3.08E-01              | 3.89E-02              | 6.096      | 0             | 45.9002             | 0.396        | 12,000           | Hammermill 2                    |
| STRU31    | 3.08E-01              | 3.89E-02              | 6.096      | 0             | 45.9002             | 0.396        | 12,000           | Hammermill 3                    |
| STRU32    | 3.08E-01              | 3.89E-02              | 6.096      | 0             | 45.9002             | 0.396        | 12,000           | Hammermill 4                    |
| STRU49    | 3.08E-01              | 3.89E-02              | 6.096      | 0             | 45.9002             | 0.396        | 12,000           | Hammermill 5                    |
| STRU50    | 1.35E+01              | 1.70E+00              | 30.48      | 416.483       | 18.826              | 1.631        | 83,300           | New RTO                         |

|         |          |          |        |        |         |       |         |                                 |
|---------|----------|----------|--------|--------|---------|-------|---------|---------------------------------|
| STRU23  | 3.09E-01 | 3.89E-02 | 16.459 | 0      | 12.4187 | 0.762 | 12,000  | Grain Receiving and Handling #2 |
| FUGI15A | 1.13E-01 | 1.43E-02 | 8.87   | 0      | 5.811   | 4.877 | 230,000 | Cooling Towers                  |
| FUGI15B | 1.13E-01 | 1.43E-02 | 8.87   | 0      | 5.811   | 4.877 | 230,000 | Cooling Towers                  |
| FUGI15C | 1.13E-01 | 1.43E-02 | 8.87   | 0      | 5.811   | 4.877 | 230,000 | Cooling Towers                  |
| FUGI15D | 1.13E-01 | 1.43E-02 | 8.87   | 0      | 5.811   | 4.877 | 230,000 | Cooling Towers                  |
| FUGI16A | 1.13E-01 | 1.43E-02 | 8.87   | 0      | 5.811   | 4.877 | 230,000 | New Cooling Towers              |
| FUGI16B | 1.13E-01 | 1.43E-02 | 8.87   | 0      | 5.811   | 4.877 | 230,000 | New Cooling Towers              |
| STRU22  | 50.00    | 6.30E00  | 30.48  | 416.48 | 20.317  | 1.57  | 83,309  | 3-Chambered RTO                 |
| STRU57  | 50.00    | 6.30E00  | 30.48  | 416.48 | 18.824  | 1.63  | 83,300  | RTO 2                           |
| STRU20  | 0.84     | 1.06E-02 | 18.29  | 372.04 | 12.334  | 1.40  | 40,000  | DDG Fluid Bed Cooler            |
| STRU17  | 0.42     | 5.29E-02 | 35.05  | 299.82 | 12.936  | 0.30  | 2,000   | DDGS Storage Silo               |
| STRU1   | 0.037    | 4.66E-03 | 9.14   | 483.15 | 29.700  | 0.85  | 36,000  | Boiler #2                       |
| STRU34  | 0.04314  | 5.44E-03 | 9.14   | 483.15 | 27.219  | 0.81  | 30,000  | Boiler #1                       |
| STRU17  | 0.0219   | 2.76E-03 | 35.05  | 299.82 | 12.936  | 0.30  | 2,000   | DDGS Storage Silo               |

**Table 3: Volume Source Parameters (PM<sub>10</sub> & SO<sub>2</sub>)**

| Permit ID           | AERMOD ID  | Pollutant        | Averaging Time     | Operating Scenario | Scalar/Variable emissions type | Easting     | Northing      | Base Elevation [m] |
|---------------------|------------|------------------|--------------------|--------------------|--------------------------------|-------------|---------------|--------------------|
| EQUI 219            | EQ219      | SO <sub>2</sub>  | 1-, 3-, 24-hr, Ann | 1 / 2              |                                | 573,270.231 | 4,837,558.240 | 332.81             |
| EQUI 176            | PBPEQUI176 | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,171.580 | 4,837,510.581 | 335.51             |
| EQUI 178            | PBPEQUI178 | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,034.994 | 4,837,528.172 | 341.56             |
| EQUI 176            | PBPEQUI176 | PM <sub>10</sub> | 24-hr              | 2                  | HROFDY                         | 573,171.580 | 4,837,510.581 | 335.51             |
| EQUI 178            | PBPEQUI178 | PM <sub>10</sub> | 24-hr              | 2                  | HROFDY                         | 573,034.994 | 4,837,528.172 | 341.56             |
| EQUI 5, 8, 177, 179 | PBPEQUI5   | PM <sub>10</sub> | 24-hr              | 1 / 2              | HROFDY                         | 573,171.580 | 4,837,510.581 | 335.51             |
| IA - Space Heating  | PBPSHEAT   | PM <sub>10</sub> | 24-hr              | 1 / 2              |                                | 573,200.580 | 4,837,522.880 | 333.8              |
| FUGI1               | PBPGRE01   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,161.140 | 4,837,426.800 | 333.06             |
| FUGI1               | PBPGRE02   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573162.42   | 4,837,436.720 | 333.81             |
| FUGI1               | PBPGRE03   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,161.140 | 4,837,426.800 | 334.08             |
| FUGI1               | PBPGRE04   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,174.940 | 4,837,449.860 | 333.89             |
| FUGI1               | PBPGRE05   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573.184.94  | 4,837,450.140 | 333.2              |
| FUGI1               | PBPGRE06   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,194.940 | 4,837,450.420 | 332.55             |
| FUGI1               | PBPGRE07   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,204.930 | 4,837,450.700 | 331.87             |
| FUGI1               | PBPGRE08   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,214.930 | 4,837,450.980 | 331.25             |
| FUGI1               | PBPGRE09   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,224.920 | 4,837,451.820 | 330.66             |
| FUGI1               | PBPGRE10   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,234.920 | 4,837,451.540 | 330.01             |
| FUGI1               | PBPGRE11   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,244.920 | 4,837,451.820 | 329.34             |
| FUGI1               | PBPGRE12   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,254.910 | 4,837,452.090 | 329.03             |
| FUGI1               | PBPGRE13   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,264.910 | 4,837,452.370 | 329                |
| FUGI1               | PBPGRE14   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,274.600 | 4,837,453.820 | 329.13             |
| FUGI1               | PBPGRE15   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,283.480 | 4,837,458.410 | 329.35             |
| FUGI1               | PBPGRE16   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,292.370 | 4,837,463.010 | 329.72             |
| FUGI1               | PBPGRE17   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,297.180 | 4,837,471.670 | 330.08             |
| FUGI1               | PBPGRE18   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,301.770 | 4,837,480.560 | 330.3              |
| FUGI1               | PBPGRE19   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,303.390 | 4,837,490.140 | 330.44             |
| FUGI1               | PBPGRE20   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,303.240 | 4,837,500.140 | 330.64             |
| FUGI1               | PBPGRE21   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,303.090 | 4,837,510.140 | 330.7              |
| FUGI1               | PBPGRE22   | PM <sub>10</sub> | 24-hr              | 1                  | HROFDY                         | 573,302.940 | 4,837,520.140 | 330.77             |

|       |          |                  |       |   |        |             |               |        |
|-------|----------|------------------|-------|---|--------|-------------|---------------|--------|
| FUGI1 | PBPGRE23 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,302.790 | 4,837,530.140 | 330.85 |
| FUGI1 | PBPGRE24 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,299.290 | 4,837,539.400 | 330.99 |
| FUGI1 | PBPGRE25 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,295.260 | 4,837,548.560 | 331.31 |
| FUGI1 | PBPGRE26 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,294.680 | 4,837,558.490 | 331.64 |
| FUGI1 | PBPGRE27 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,294.390 | 4,837,568.480 | 332.08 |
| FUGI1 | PBPGRE28 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,293.020 | 4,837,578.330 | 332.59 |
| FUGI1 | PBPGRE29 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,290.590 | 4,837,588.030 | 333.12 |
| FUGI1 | PBPGRE30 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,284.800 | 4,837,594.110 | 333.55 |
| FUGI1 | PBPGRE31 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,274.950 | 4,837,595.810 | 333.82 |
| FUGI1 | PBPGRE32 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,265.040 | 4,837,596.850 | 334.09 |
| FUGI1 | PBPGRE33 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,255.040 | 4,837,596.740 | 334.3  |
| FUGI1 | PBPGRE34 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,245.040 | 4,837,596.620 | 334.55 |
| FUGI1 | PBPGRE35 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,235.040 | 4,837,596.510 | 334.73 |
| FUGI1 | PBPGRE36 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,225.040 | 4,837,596.390 | 334.82 |
| FUGI1 | PBPGRE37 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,215.040 | 4,837,596.280 | 334.83 |
| FUGI1 | PBPGRE38 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,205.060 | 4,837,596.380 | 334.73 |
| FUGI1 | PBPGRE39 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,195.120 | 4,837,597.530 | 334.65 |
| FUGI1 | PBPGRE40 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,185.190 | 4,837,598.680 | 334.52 |
| FUGI1 | PBPGRE41 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,280.220 | 4,837,445.700 | 329.14 |
| FUGI1 | PBPGRE42 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,287.160 | 4,837,438.880 | 329.2  |
| FUGI1 | PBPGRE43 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,287.520 | 4,837,428.880 | 329.06 |
| FUGI1 | PBPGRE44 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,177.170 | 4,837,599.600 | 334.39 |
| FUGI1 | PBPGRE45 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,169.620 | 4,837,593.040 | 334.34 |
| FUGI1 | PBPGRE46 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,163.000 | 4,837,585.910 | 334.4  |
| FUGI1 | PBPGRE47 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,160.570 | 4,837,576.210 | 334.49 |
| FUGI1 | PBPGRE48 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,159.980 | 4,837,566.300 | 334.62 |
| FUGI1 | PBPGRE49 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,160.130 | 4,837,556.300 | 334.87 |
| FUGI1 | PBPGRE50 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,160.280 | 4,837,546.300 | 335.25 |
| FUGI1 | PBPGRE51 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,160.430 | 4,837,536.300 | 335.6  |
| FUGI1 | PBPGRE52 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,160.570 | 4,837,526.300 | 335.92 |
| FUGI1 | PBPGRE53 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,160.720 | 4,837,516.300 | 336.12 |
| FUGI1 | PBPGRE54 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,160.870 | 4,837,506.310 | 336.13 |
| FUGI1 | PBPGRE55 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,161.020 | 4,837,496.310 | 336.05 |
| FUGI1 | PBPGRE56 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,161.170 | 4,837,486.310 | 335.86 |
| FUGI1 | PBPGRE57 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,161.660 | 4,837,476.370 | 335.58 |
| FUGI1 | PBPGRE58 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,164.820 | 4,837,466.880 | 335.11 |
| FUGI1 | PBPGRE59 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,167.990 | 4,837,457.390 | 334.56 |
| FUGI1 | PBPGRW01 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,161.140 | 4,837,426.800 | 333.06 |
| FUGI1 | PBPGRW02 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,162.420 | 4,837,436.720 | 333.81 |
| FUGI1 | PBPGRW03 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,167.230 | 4,837,445.220 | 334.08 |
| FUGI1 | PBPGRW04 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,174.940 | 4,837,449.860 | 333.89 |
| FUGI1 | PBPGRW05 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,184.940 | 4,837,450.140 | 333.2  |
| FUGI1 | PBPGRW06 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,194.940 | 4,837,450.420 | 332.55 |
| FUGI1 | PBPGRW07 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,204.930 | 4,837,450.700 | 331.87 |
| FUGI1 | PBPGRW08 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,214.930 | 4,837,450.980 | 331.25 |
| FUGI1 | PBPGRW09 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,224.920 | 4,837,451.260 | 330.66 |
| FUGI1 | PBPGRW10 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,234.920 | 4,837,451.540 | 330.01 |
| FUGI1 | PBPGRW11 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,244.920 | 4,837,451.820 | 329.34 |
| FUGI1 | PBPGRW12 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,254.910 | 4,837,452.090 | 329.03 |
| FUGI1 | PBPGRW13 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,264.910 | 4,837,452.370 | 329    |



|       |          |                  |       |   |        |             |               |        |
|-------|----------|------------------|-------|---|--------|-------------|---------------|--------|
| FUGI1 | PBPGRW14 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,274.600 | 4,837,453.820 | 329.13 |
| FUGI1 | PBPGRW15 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,283.480 | 4,837,458.410 | 329.35 |
| FUGI1 | PBPGRW16 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,292.370 | 4,837,463.010 | 329.72 |
| FUGI1 | PBPGRW17 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,297.180 | 4,837,471.670 | 330.08 |
| FUGI1 | PBPGRW18 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,301.770 | 4,837,480.560 | 330.3  |
| FUGI1 | PBPGRW19 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,303.390 | 4,837,490.140 | 330.44 |
| FUGI1 | PBPGRW20 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,303.240 | 4,837,500.140 | 330.64 |
| FUGI1 | PBPGRW21 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,303.090 | 4,837,510.140 | 330.7  |
| FUGI1 | PBPGRW22 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,302.940 | 4,837,520.140 | 330.77 |
| FUGI1 | PBPGRW23 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,302.790 | 4,837,530.140 | 330.85 |
| FUGI1 | PBPGRW24 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,299.290 | 4,837,539.400 | 330.99 |
| FUGI1 | PBPGRW25 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,295.260 | 4,837,548.560 | 331.31 |
| FUGI1 | PBPGRW26 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,294.680 | 4,837,558.490 | 331.64 |
| FUGI1 | PBPGRW27 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,294.390 | 4,837,568.480 | 332.08 |
| FUGI1 | PBPGRW28 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,293.020 | 4,837,578.330 | 332.59 |
| FUGI1 | PBPGRW29 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,290.590 | 4,837,588.030 | 333.12 |
| FUGI1 | PBPGRW30 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,284.800 | 4,837,594.110 | 333.55 |
| FUGI1 | PBPGRW31 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,274.940 | 4,837,595.810 | 333.82 |
| FUGI1 | PBPGRW32 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,265.040 | 4,837,596.850 | 334.09 |
| FUGI1 | PBPGRW33 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,255.040 | 4,837,596.740 | 334.3  |
| FUGI1 | PBPGRW34 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,245.040 | 4,837,596.620 | 334.55 |
| FUGI1 | PBPGRW35 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,235.040 | 4,837,596.510 | 334.73 |
| FUGI1 | PBPGRW36 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,225.040 | 4,837,596.390 | 334.82 |
| FUGI1 | PBPGRW37 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,215.040 | 4,837,596.280 | 334.83 |
| FUGI1 | PBPGRW38 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,205.060 | 4,837,596.380 | 334.73 |
| FUGI1 | PBPGRW39 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,195.120 | 4,837,597.530 | 334.65 |
| FUGI1 | PBPGRW40 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,185.190 | 4,837,598.680 | 334.52 |
| FUGI1 | PBPGRW41 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,166.020 | 4,837,602.920 | 334.42 |
| FUGI1 | PBPGRW42 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,157.620 | 4,837,608.350 | 334.5  |
| FUGI1 | PBPGRW43 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,149.230 | 4,837,613.780 | 334.73 |
| FUGI1 | PBPGRW44 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,140.830 | 4,837,619.210 | 335.02 |
| FUGI1 | PBPGRW45 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,132.380 | 4,837,624.560 | 335.46 |
| FUGI1 | PBPGRW46 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,123.600 | 4,837,629.350 | 336.12 |
| FUGI1 | PBPGRW47 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,114.410 | 4,837,632.750 | 336.88 |
| FUGI1 | PBPGRW48 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,104.450 | 4,837,633.640 | 337.68 |
| FUGI1 | PBPGRW49 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,094.480 | 4,837,634.520 | 338.5  |
| FUGI1 | PBPGRW50 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,084.520 | 4,837,635.250 | 339.26 |
| FUGI1 | PBPGRW51 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,074.520 | 4,837,635.040 | 340    |
| FUGI1 | PBPGRW52 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,064.520 | 4,837,634.830 | 340.74 |
| FUGI1 | PBPGRW53 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,054.530 | 4,837,634.620 | 341.39 |
| FUGI1 | PBPGRW54 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,045.440 | 4,837,630.860 | 341.81 |
| FUGI1 | PBPGRW55 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,037.400 | 4,837,625.620 | 342.19 |
| FUGI1 | PBPGRW56 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,035.640 | 4,837,615.780 | 342.31 |
| FUGI1 | PBPGRW57 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,605.920 | 342.44 |
| FUGI1 | PBPGRW58 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,595.920 | 342.53 |
| FUGI1 | PBPGRW59 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,585.920 | 342.63 |
| FUGI1 | PBPGRW60 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,575.920 | 342.67 |
| FUGI1 | PBPGRW61 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,565.920 | 342.65 |
| FUGI1 | PBPGRW62 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,555.920 | 342.49 |
| FUGI1 | PBPGRW63 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,545.920 | 342.19 |

|       |          |                  |       |   |        |             |               |        |
|-------|----------|------------------|-------|---|--------|-------------|---------------|--------|
| FUGI1 | PBPGRW64 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,535.920 | 341.84 |
| FUGI1 | PBPGRW65 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,525.920 | 341.43 |
| FUGI1 | PBPGRW66 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,515.920 | 340.94 |
| FUGI1 | PBPGRW67 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,034.040 | 4,837,505.920 | 340.39 |
| FUGI1 | PBPGRW68 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,035.840 | 4,837,496.250 | 339.71 |
| FUGI1 | PBPGRW69 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,039.430 | 4,837,486.920 | 338.63 |
| FUGI1 | PBPGRW70 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,045.520 | 4,837,479.620 | 337.54 |
| FUGI1 | PBPGRW71 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,053.920 | 4,837,474.200 | 336.72 |
| FUGI1 | PBPGRW72 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,062.330 | 4,837,468.780 | 336.23 |
| FUGI1 | PBPGRW73 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,071.600 | 4,837,465.090 | 336.28 |
| FUGI1 | PBPGRW74 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,080.970 | 4,837,461.600 | 336.49 |
| FUGI1 | PBPGRW75 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,090.340 | 4,837,458.120 | 336.47 |
| FUGI1 | PBPGRW76 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,100.090 | 4,837,456.270 | 336.41 |
| FUGI1 | PBPGRW77 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,110.050 | 4,837,455.480 | 336.34 |
| FUGI1 | PBPGRW78 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,120.000 | 4,837,456.450 | 336.39 |
| FUGI1 | PBPGRW79 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,129.950 | 4,837,457.410 | 336.21 |
| FUGI1 | PBPGRW80 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,139.730 | 4,837,455.640 | 335.78 |
| FUGI1 | PBPGRW81 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,149.470 | 4,837,453.390 | 335.32 |
| FUGI1 | PBPGRW82 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,159.220 | 4,837,451.140 | 334.76 |
| FUGI1 | PBPGRW83 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,280.220 | 4,837,445.700 | 329.14 |
| FUGI1 | PBPGRW84 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,287.160 | 4,837,438.880 | 329.2  |
| FUGI1 | PBPGRW85 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,287.520 | 4,837,428.880 | 329.06 |
| FUGI1 | PBPGRW86 | PM <sub>10</sub> | 24-hr | 1 | HROFDY | 573,177.170 | 4,837,599.600 | 334.39 |
| FUGI1 | PBPGRE01 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,161.140 | 4,837,426.800 | 333.06 |
| FUGI1 | PBPGRE02 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573162.42   | 4,837,436.720 | 333.81 |
| FUGI1 | PBPGRE03 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,161.140 | 4,837,426.800 | 334.08 |
| FUGI1 | PBPGRE04 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,174.940 | 4,837,449.860 | 333.89 |
| FUGI1 | PBPGRE05 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573.184.94  | 4,837,450.140 | 333.2  |
| FUGI1 | PBPGRE06 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,194.940 | 4,837,450.420 | 332.55 |
| FUGI1 | PBPGRE07 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,204.930 | 4,837,450.700 | 331.87 |
| FUGI1 | PBPGRE08 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,214.930 | 4,837,450.980 | 331.25 |
| FUGI1 | PBPGRE09 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,224.920 | 4,837,451.820 | 330.66 |
| FUGI1 | PBPGRE10 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,234.920 | 4,837,451.540 | 330.01 |
| FUGI1 | PBPGRE11 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,244.920 | 4,837,451.820 | 329.34 |
| FUGI1 | PBPGRE12 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,254.910 | 4,837,452.090 | 329.03 |
| FUGI1 | PBPGRE13 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,264.910 | 4,837,452.370 | 329    |
| FUGI1 | PBPGRE14 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,274.600 | 4,837,453.820 | 329.13 |
| FUGI1 | PBPGRE15 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,283.480 | 4,837,458.410 | 329.35 |
| FUGI1 | PBPGRE16 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,292.370 | 4,837,463.010 | 329.72 |
| FUGI1 | PBPGRE17 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,297.180 | 4,837,471.670 | 330.08 |
| FUGI1 | PBPGRE18 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,301.770 | 4,837,480.560 | 330.3  |
| FUGI1 | PBPGRE19 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,303.390 | 4,837,490.140 | 330.44 |
| FUGI1 | PBPGRE20 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,303.240 | 4,837,500.140 | 330.64 |
| FUGI1 | PBPGRE21 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,303.090 | 4,837,510.140 | 330.7  |
| FUGI1 | PBPGRE22 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,302.940 | 4,837,520.140 | 330.77 |
| FUGI1 | PBPGRE23 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,302.790 | 4,837,530.140 | 330.85 |
| FUGI1 | PBPGRE24 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,299.290 | 4,837,539.400 | 330.99 |
| FUGI1 | PBPGRE25 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,295.260 | 4,837,548.560 | 331.31 |
| FUGI1 | PBPGRE26 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,294.680 | 4,837,558.490 | 331.64 |
| FUGI1 | PBPGRE27 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,294.390 | 4,837,568.480 | 332.08 |

|       |          |                  |       |   |        |             |               |        |
|-------|----------|------------------|-------|---|--------|-------------|---------------|--------|
| FUGI1 | PBPGRE28 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,293.020 | 4,837,578.330 | 332.59 |
| FUGI1 | PBPGRE29 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,290.590 | 4,837,588.030 | 333.12 |
| FUGI1 | PBPGRE30 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,284.800 | 4,837,594.110 | 333.55 |
| FUGI1 | PBPGRE31 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,274.950 | 4,837,595.810 | 333.82 |
| FUGI1 | PBPGRE32 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,265.040 | 4,837,596.850 | 334.09 |
| FUGI1 | PBPGRE33 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,255.040 | 4,837,596.740 | 334.3  |
| FUGI1 | PBPGRE34 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,245.040 | 4,837,596.620 | 334.55 |
| FUGI1 | PBPGRE35 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,235.040 | 4,837,596.510 | 334.73 |
| FUGI1 | PBPGRE36 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,225.040 | 4,837,596.390 | 334.82 |
| FUGI1 | PBPGRE37 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,215.040 | 4,837,596.280 | 334.83 |
| FUGI1 | PBPGRE38 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,205.060 | 4,837,596.380 | 334.73 |
| FUGI1 | PBPGRE39 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,195.120 | 4,837,597.530 | 334.65 |
| FUGI1 | PBPGRE40 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,185.190 | 4,837,598.680 | 334.52 |
| FUGI1 | PBPGRE41 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,280.220 | 4,837,445.700 | 329.14 |
| FUGI1 | PBPGRE42 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,287.160 | 4,837,438.880 | 329.2  |
| FUGI1 | PBPGRE43 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,287.520 | 4,837,428.880 | 329.06 |
| FUGI1 | PBPGRE44 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,177.170 | 4,837,599.600 | 334.39 |
| FUGI1 | PBPGRE45 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,169.620 | 4,837,593.040 | 334.34 |
| FUGI1 | PBPGRE46 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,163.000 | 4,837,585.910 | 334.4  |
| FUGI1 | PBPGRE47 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,160.570 | 4,837,576.210 | 334.49 |
| FUGI1 | PBPGRE48 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,159.980 | 4,837,566.300 | 334.62 |
| FUGI1 | PBPGRE49 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,160.130 | 4,837,556.300 | 334.87 |
| FUGI1 | PBPGRE50 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,160.280 | 4,837,546.300 | 335.25 |
| FUGI1 | PBPGRE51 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,160.430 | 4,837,536.300 | 335.6  |
| FUGI1 | PBPGRE52 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,160.570 | 4,837,526.300 | 335.92 |
| FUGI1 | PBPGRE53 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,160.720 | 4,837,516.300 | 336.12 |
| FUGI1 | PBPGRE54 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,160.870 | 4,837,506.310 | 336.13 |
| FUGI1 | PBPGRE55 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,161.020 | 4,837,496.310 | 336.05 |
| FUGI1 | PBPGRE56 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,161.170 | 4,837,486.310 | 335.86 |
| FUGI1 | PBPGRE57 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,161.660 | 4,837,476.370 | 335.58 |
| FUGI1 | PBPGRE58 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,164.820 | 4,837,466.880 | 335.11 |
| FUGI1 | PBPGRE59 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,167.990 | 4,837,457.390 | 334.56 |
| FUGI1 | PBPGRW01 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,161.140 | 4,837,426.800 | 333.06 |
| FUGI1 | PBPGRW02 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,162.420 | 4,837,436.720 | 333.81 |
| FUGI1 | PBPGRW03 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,167.230 | 4,837,445.220 | 334.08 |
| FUGI1 | PBPGRW04 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,174.940 | 4,837,449.860 | 333.89 |
| FUGI1 | PBPGRW05 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,184.940 | 4,837,450.140 | 333.2  |
| FUGI1 | PBPGRW06 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,194.940 | 4,837,450.420 | 332.55 |
| FUGI1 | PBPGRW07 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,204.930 | 4,837,450.700 | 331.87 |
| FUGI1 | PBPGRW08 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,214.930 | 4,837,450.980 | 331.25 |
| FUGI1 | PBPGRW09 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,224.920 | 4,837,451.260 | 330.66 |
| FUGI1 | PBPGRW10 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,234.920 | 4,837,451.540 | 330.01 |
| FUGI1 | PBPGRW11 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,244.920 | 4,837,451.820 | 329.34 |
| FUGI1 | PBPGRW12 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,254.910 | 4,837,452.090 | 329.03 |
| FUGI1 | PBPGRW13 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,264.910 | 4,837,452.370 | 329    |
| FUGI1 | PBPGRW14 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,274.600 | 4,837,453.820 | 329.13 |
| FUGI1 | PBPGRW15 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,283.480 | 4,837,458.410 | 329.35 |
| FUGI1 | PBPGRW16 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,292.370 | 4,837,463.010 | 329.72 |
| FUGI1 | PBPGRW17 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,297.180 | 4,837,471.670 | 330.08 |
| FUGI1 | PBPGRW18 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,301.770 | 4,837,480.560 | 330.3  |

|       |          |                  |       |   |        |             |               |        |
|-------|----------|------------------|-------|---|--------|-------------|---------------|--------|
| FUGI1 | PBPGRW19 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,303.390 | 4,837,490.140 | 330.44 |
| FUGI1 | PBPGRW20 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,303.240 | 4,837,500.140 | 330.64 |
| FUGI1 | PBPGRW21 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,303.090 | 4,837,510.140 | 330.7  |
| FUGI1 | PBPGRW22 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,302.940 | 4,837,520.140 | 330.77 |
| FUGI1 | PBPGRW23 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,302.790 | 4,837,530.140 | 330.85 |
| FUGI1 | PBPGRW24 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,299.290 | 4,837,539.400 | 330.99 |
| FUGI1 | PBPGRW25 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,295.260 | 4,837,548.560 | 331.31 |
| FUGI1 | PBPGRW26 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,294.680 | 4,837,558.490 | 331.64 |
| FUGI1 | PBPGRW27 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,294.390 | 4,837,568.480 | 332.08 |
| FUGI1 | PBPGRW28 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,293.020 | 4,837,578.330 | 332.59 |
| FUGI1 | PBPGRW29 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,290.590 | 4,837,588.030 | 333.12 |
| FUGI1 | PBPGRW30 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,284.800 | 4,837,594.110 | 333.55 |
| FUGI1 | PBPGRW31 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,274.940 | 4,837,595.810 | 333.82 |
| FUGI1 | PBPGRW32 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,265.040 | 4,837,596.850 | 334.09 |
| FUGI1 | PBPGRW33 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,255.040 | 4,837,596.740 | 334.3  |
| FUGI1 | PBPGRW34 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,245.040 | 4,837,596.620 | 334.55 |
| FUGI1 | PBPGRW35 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,235.040 | 4,837,596.510 | 334.73 |
| FUGI1 | PBPGRW36 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,225.040 | 4,837,596.390 | 334.82 |
| FUGI1 | PBPGRW37 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,215.040 | 4,837,596.280 | 334.83 |
| FUGI1 | PBPGRW38 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,205.060 | 4,837,596.380 | 334.73 |
| FUGI1 | PBPGRW39 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,195.120 | 4,837,597.530 | 334.65 |
| FUGI1 | PBPGRW40 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,185.190 | 4,837,598.680 | 334.52 |
| FUGI1 | PBPGRW41 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,166.020 | 4,837,602.920 | 334.42 |
| FUGI1 | PBPGRW42 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,157.620 | 4,837,608.350 | 334.5  |
| FUGI1 | PBPGRW43 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,149.230 | 4,837,613.780 | 334.73 |
| FUGI1 | PBPGRW44 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,140.830 | 4,837,619.210 | 335.02 |
| FUGI1 | PBPGRW45 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,132.380 | 4,837,624.560 | 335.46 |
| FUGI1 | PBPGRW46 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,123.600 | 4,837,629.350 | 336.12 |
| FUGI1 | PBPGRW47 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,114.410 | 4,837,632.750 | 336.88 |
| FUGI1 | PBPGRW48 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,104.450 | 4,837,633.640 | 337.68 |
| FUGI1 | PBPGRW49 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,094.480 | 4,837,634.520 | 338.5  |
| FUGI1 | PBPGRW50 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,084.520 | 4,837,635.250 | 339.26 |
| FUGI1 | PBPGRW51 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,074.520 | 4,837,635.040 | 340    |
| FUGI1 | PBPGRW52 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,064.520 | 4,837,634.830 | 340.74 |
| FUGI1 | PBPGRW53 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,054.530 | 4,837,634.620 | 341.39 |
| FUGI1 | PBPGRW54 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,045.440 | 4,837,630.860 | 341.81 |
| FUGI1 | PBPGRW55 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,037.400 | 4,837,625.620 | 342.19 |
| FUGI1 | PBPGRW56 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,035.640 | 4,837,615.780 | 342.31 |
| FUGI1 | PBPGRW57 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,605.920 | 342.44 |
| FUGI1 | PBPGRW58 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,595.920 | 342.53 |
| FUGI1 | PBPGRW59 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,585.920 | 342.63 |
| FUGI1 | PBPGRW60 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,575.920 | 342.67 |
| FUGI1 | PBPGRW61 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,565.920 | 342.65 |
| FUGI1 | PBPGRW62 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,555.920 | 342.49 |
| FUGI1 | PBPGRW63 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,545.920 | 342.19 |
| FUGI1 | PBPGRW64 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,535.920 | 341.84 |
| FUGI1 | PBPGRW65 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,525.920 | 341.43 |
| FUGI1 | PBPGRW66 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,515.920 | 340.94 |
| FUGI1 | PBPGRW67 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,034.040 | 4,837,505.920 | 340.39 |
| FUGI1 | PBPGRW68 | PM <sub>10</sub> | 24-hr | 2 | HROFDY | 573,035.840 | 4,837,496.250 | 339.71 |

|       |          |                  |       |       |        |             |               |        |
|-------|----------|------------------|-------|-------|--------|-------------|---------------|--------|
| FUGI1 | PBPGRW69 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,039.430 | 4,837,486.920 | 338.63 |
| FUGI1 | PBPGRW70 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,045.520 | 4,837,479.620 | 337.54 |
| FUGI1 | PBPGRW71 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,053.920 | 4,837,474.200 | 336.72 |
| FUGI1 | PBPGRW72 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,062.330 | 4,837,468.780 | 336.23 |
| FUGI1 | PBPGRW73 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,071.600 | 4,837,465.090 | 336.28 |
| FUGI1 | PBPGRW74 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,080.970 | 4,837,461.600 | 336.49 |
| FUGI1 | PBPGRW75 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,090.340 | 4,837,458.120 | 336.47 |
| FUGI1 | PBPGRW76 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,100.090 | 4,837,456.270 | 336.41 |
| FUGI1 | PBPGRW77 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,110.050 | 4,837,455.480 | 336.34 |
| FUGI1 | PBPGRW78 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,120.000 | 4,837,456.450 | 336.39 |
| FUGI1 | PBPGRW79 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,129.950 | 4,837,457.410 | 336.21 |
| FUGI1 | PBPGRW80 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,139.730 | 4,837,455.640 | 335.78 |
| FUGI1 | PBPGRW81 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,149.470 | 4,837,453.390 | 335.32 |
| FUGI1 | PBPGRW82 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,159.220 | 4,837,451.140 | 334.76 |
| FUGI1 | PBPGRW83 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,280.220 | 4,837,445.700 | 329.14 |
| FUGI1 | PBPGRW84 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,287.160 | 4,837,438.880 | 329.2  |
| FUGI1 | PBPGRW85 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,287.520 | 4,837,428.880 | 329.06 |
| FUGI1 | PBPGRW86 | PM <sub>10</sub> | 24-hr | 2     | HROFDY | 573,177.170 | 4,837,599.600 | 334.39 |
| FUGI1 | PBPDDG01 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.135 | 4,837,426.802 | 333.06 |
| FUGI1 | PBPDDG02 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,162.416 | 4,837,436.719 | 333.81 |
| FUGI1 | PBPDDG03 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,167.231 | 4,837,445.223 | 334.08 |
| FUGI1 | PBPDDG04 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,169.623 | 4,837,593.039 | 334.34 |
| FUGI1 | PBPDDG05 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,162.996 | 4,837,585.914 | 334.4  |
| FUGI1 | PBPDDG06 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.571 | 4,837,576.212 | 334.49 |
| FUGI1 | PBPDDG07 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,159.982 | 4,837,566.299 | 334.62 |
| FUGI1 | PBPDDG08 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.130 | 4,837,556.300 | 334.87 |
| FUGI1 | PBPDDG09 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.278 | 4,837,546.301 | 335.25 |
| FUGI1 | PBPDDG10 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.426 | 4,837,536.302 | 335.6  |
| FUGI1 | PBPDDG11 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.574 | 4,837,526.303 | 335.92 |
| FUGI1 | PBPDDG12 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.722 | 4,837,516.304 | 336.12 |
| FUGI1 | PBPDDG13 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.871 | 4,837,506.305 | 336.13 |
| FUGI1 | PBPDDG14 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.019 | 4,837,496.306 | 336.05 |
| FUGI1 | PBPDDG15 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.167 | 4,837,486.307 | 335.86 |
| FUGI1 | PBPDDG16 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.662 | 4,837,476.368 | 335.58 |
| FUGI1 | PBPDDG17 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,170.540 | 4,837,449.735 | 334.11 |
| FUGI1 | PBPDDG18 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,175.810 | 4,837,458.233 | 334.15 |
| FUGI1 | PBPDDG19 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,181.080 | 4,837,466.732 | 334.12 |
| FUGI1 | PBPDDG20 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,186.350 | 4,837,475.230 | 334.01 |
| FUGI1 | PBPDDG21 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,190.715 | 4,837,483.992 | 333.87 |
| FUGI1 | PBPDDG22 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,190.820 | 4,837,493.991 | 334.17 |
| FUGI1 | PBPDDG23 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,190.925 | 4,837,503.991 | 334.37 |
| FUGI1 | PBPDDG24 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.029 | 4,837,513.990 | 334.36 |
| FUGI1 | PBPDDG25 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.134 | 4,837,523.990 | 334.25 |
| FUGI1 | PBPDDG26 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.239 | 4,837,533.989 | 334.06 |
| FUGI1 | PBPDDG27 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.343 | 4,837,543.989 | 333.86 |
| FUGI1 | PBPDDG28 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.448 | 4,837,553.988 | 333.74 |
| FUGI1 | PBPDDG29 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.553 | 4,837,563.988 | 333.74 |
| FUGI1 | PBPDDG30 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.658 | 4,837,573.987 | 333.86 |
| FUGI1 | PBPDDG31 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.762 | 4,837,583.987 | 334.08 |
| FUGI1 | PBPDDG32 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,187.377 | 4,837,591.796 | 334.29 |

|       |          |                  |       |       |        |             |               |        |
|-------|----------|------------------|-------|-------|--------|-------------|---------------|--------|
| FUGI1 | PBPDDG33 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,179.434 | 4,837,597.870 | 334.39 |
| FUGI1 | PBPDDG34 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.563 | 4,837,470.317 | 335.39 |
| FUGI1 | PBPDDG35 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.933 | 4,837,460.323 | 335.01 |
| FUGI1 | PBPDDG36 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,162.303 | 4,837,450.330 | 334.56 |
| FUGI1 | PBPHR001 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.140 | 4,837,426.800 | 333.06 |
| FUGI1 | PBPHR002 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,162.420 | 4,837,436.720 | 333.81 |
| FUGI1 | PBPHR003 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,167.230 | 4,837,445.220 | 334.08 |
| FUGI1 | PBPHR004 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,174.940 | 4,837,449.860 | 333.89 |
| FUGI1 | PBPHR005 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,184.940 | 4,837,450.140 | 333.2  |
| FUGI1 | PBPHR006 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,194.940 | 4,837,450.420 | 332.55 |
| FUGI1 | PBPHR007 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,204.930 | 4,837,450.700 | 331.87 |
| FUGI1 | PBPHR008 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,214.930 | 4,837,450.980 | 331.25 |
| FUGI1 | PBPHR009 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,224.920 | 4,837,451.260 | 330.66 |
| FUGI1 | PBPHR010 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,234.920 | 4,837,451.540 | 330.01 |
| FUGI1 | PBPHR011 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,244.920 | 4,837,451.820 | 329.34 |
| FUGI1 | PBPHR012 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,254.910 | 4,837,452.090 | 329.03 |
| FUGI1 | PBPHR013 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,264.910 | 4,837,452.370 | 329    |
| FUGI1 | PBPHR014 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,274.600 | 4,837,453.820 | 329.13 |
| FUGI1 | PBPHR015 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,283.480 | 4,837,458.410 | 329.35 |
| FUGI1 | PBPHR016 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,292.370 | 4,837,463.010 | 329.72 |
| FUGI1 | PBPHR017 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,297.180 | 4,837,471.670 | 330.08 |
| FUGI1 | PBPHR018 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,301.770 | 4,837,480.560 | 330.3  |
| FUGI1 | PBPHR019 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,303.390 | 4,837,510.140 | 330.44 |
| FUGI1 | PBPHR020 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,303.240 | 4,837,500.140 | 330.64 |
| FUGI1 | PBPHR021 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,303.090 | 4,837,510.140 | 330.7  |
| FUGI1 | PBPHR022 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,302.940 | 4,837,520.140 | 330.77 |
| FUGI1 | PBPHR023 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,302.790 | 4,837,530.140 | 330.85 |
| FUGI1 | PBPHR024 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,299.290 | 4,837,539.400 | 330.99 |
| FUGI1 | PBPHR025 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,295.260 | 4,837,548.560 | 331.31 |
| FUGI1 | PBPHR026 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,294.680 | 4,837,558.490 | 331.64 |
| FUGI1 | PBPHR027 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,294.390 | 4,837,568.480 | 332.08 |
| FUGI1 | PBPHR028 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,293.020 | 4,837,578.330 | 332.59 |
| FUGI1 | PBPHR029 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,290.590 | 4,837,588.030 | 333.12 |
| FUGI1 | PBPHR030 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,284.800 | 4,837,594.110 | 333.55 |
| FUGI1 | PBPHR031 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,274.950 | 4,837,595.810 | 333.82 |
| FUGI1 | PBPHR032 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,265.040 | 4,837,596.850 | 334.09 |
| FUGI1 | PBPHR033 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,255.040 | 4,837,596.740 | 334.3  |
| FUGI1 | PBPHR034 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,245.040 | 4,837,596.620 | 334.55 |
| FUGI1 | PBPHR035 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,235.040 | 4,837,596.510 | 334.73 |
| FUGI1 | PBPHR036 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,225.040 | 4,837,596.390 | 334.82 |
| FUGI1 | PBPHR037 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,215.040 | 4,837,596.280 | 334.83 |
| FUGI1 | PBPHR038 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,205.060 | 4,837,596.380 | 334.73 |
| FUGI1 | PBPHR039 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,195.120 | 4,837,597.530 | 334.65 |
| FUGI1 | PBPHR040 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,185.190 | 4,837,598.680 | 334.52 |
| FUGI1 | PBPHR041 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,166.020 | 4,837,602.920 | 334.42 |
| FUGI1 | PBPHR042 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,157.620 | 4,837,608.350 | 334.5  |
| FUGI1 | PBPHR043 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,149.230 | 4,837,613.780 | 334.73 |
| FUGI1 | PBPHR044 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,139.730 | 4,837,455.640 | 335.78 |
| FUGI1 | PBPHR045 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,149.470 | 4,837,453.390 | 335.32 |
| FUGI1 | PBPHR046 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,159.220 | 4,837,451.140 | 334.76 |

|       |          |                  |       |       |        |             |               |        |
|-------|----------|------------------|-------|-------|--------|-------------|---------------|--------|
| FUGI1 | PBPHR047 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,280.220 | 4,837,445.700 | 329.14 |
| FUGI1 | PBPHR048 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,287.160 | 4,837,438.880 | 329.2  |
| FUGI1 | PBPHR049 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,287.520 | 4,837,428.880 | 329.06 |
| FUGI1 | PBPHR050 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,177.170 | 4,837,599.600 | 334.39 |
| FUGI1 | PBPHR051 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,169.620 | 4,837,593.040 | 334.34 |
| FUGI1 | PBPHR052 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,163.000 | 4,837,585.910 | 334.4  |
| FUGI1 | PBPHR053 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.570 | 4,837,576.210 | 334.49 |
| FUGI1 | PBPHR054 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,159.980 | 4,837,566.300 | 334.62 |
| FUGI1 | PBPHR055 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.130 | 4,837,556.300 | 334.87 |
| FUGI1 | PBPHR056 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.280 | 4,837,546.300 | 335.25 |
| FUGI1 | PBPHR057 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.430 | 4,837,536.300 | 335.6  |
| FUGI1 | PBPHR058 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.570 | 4,837,526.300 | 335.92 |
| FUGI1 | PBPHR059 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.720 | 4,837,516.300 | 336.12 |
| FUGI1 | PBPHR060 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,160.870 | 4,837,506.310 | 336.13 |
| FUGI1 | PBPHR061 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.020 | 4,837,496.310 | 336.05 |
| FUGI1 | PBPHR062 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.170 | 4,837,486.310 | 335.86 |
| FUGI1 | PBPHR063 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.660 | 4,837,476.370 | 335.58 |
| FUGI1 | PBPHR064 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,170.540 | 4,837,449.730 | 334.11 |
| FUGI1 | PBPHR065 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,175.810 | 4,837,458.230 | 334.15 |
| FUGI1 | PBPHR066 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,181.080 | 4,837,466.730 | 334.12 |
| FUGI1 | PBPHR067 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,186.350 | 4,837,475.230 | 334.01 |
| FUGI1 | PBPHR068 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,190.720 | 4,837,483.990 | 333.87 |
| FUGI1 | PBPHR069 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,190.820 | 4,837,493.990 | 334.17 |
| FUGI1 | PBPHR070 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,190.920 | 4,837,503.990 | 334.37 |
| FUGI1 | PBPHR071 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.030 | 4,837,513.990 | 334.36 |
| FUGI1 | PBPHR072 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.130 | 4,837,523.990 | 334.25 |
| FUGI1 | PBPHR073 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.240 | 4,837,533.990 | 334.06 |
| FUGI1 | PBPHR074 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.340 | 4,837,543.990 | 333.86 |
| FUGI1 | PBPHR075 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.450 | 4,837,553.990 | 333.74 |
| FUGI1 | PBPHR076 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.550 | 4,837,563.990 | 333.74 |
| FUGI1 | PBPHR077 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.660 | 4,837,573.990 | 333.86 |
| FUGI1 | PBPHR078 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,191.760 | 4,837,583.990 | 334.08 |
| FUGI1 | PBPHR079 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,187.380 | 4,837,591.800 | 334.29 |
| FUGI1 | PBPHR080 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,179.430 | 4,837,597.870 | 334.39 |
| FUGI1 | PBPHR081 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.560 | 4,837,470.320 | 335.39 |
| FUGI1 | PBPHR082 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,161.930 | 4,837,460.320 | 335.01 |
| FUGI1 | PBPHR083 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,162.300 | 4,837,450.330 | 334.56 |
| FUGI1 | PBPHR084 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,192.400 | 4,837,474.230 | 333.52 |
| FUGI1 | PBPHR085 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,194.470 | 4,837,464.450 | 333.07 |
| FUGI1 | PBPHR086 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,196.550 | 4,837,454.660 | 332.6  |
| FUGI1 | PBPHR087 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,289.490 | 4,837,449.500 | 329.34 |
| FUGI1 | PBPHR088 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,291.840 | 4,837,459.220 | 329.63 |
| FUGI1 | PBPHR089 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,290.170 | 4,837,468.470 | 329.78 |
| FUGI1 | PBPHR090 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,283.510 | 4,837,474.040 | 329.71 |
| FUGI1 | PBPHR091 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,273.510 | 4,837,474.400 | 329.35 |
| FUGI1 | PBPHR092 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,141.090 | 4,837,611.500 | 335.02 |
| FUGI1 | PBPHR093 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,131.160 | 4,837,610.390 | 335.62 |
| FUGI1 | PBPHR094 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,122.800 | 4,837,605.500 | 336.32 |
| FUGI1 | PBPHR095 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,117.160 | 4,837,597.560 | 336.86 |
| FUGI1 | PBPHR096 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,114.600 | 4,837,588.130 | 337.22 |

|       |          |                  |       |       |        |             |               |        |
|-------|----------|------------------|-------|-------|--------|-------------|---------------|--------|
| FUGI1 | PBPHR097 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,114.760 | 4,837,578.130 | 337.44 |
| FUGI1 | PBPHR098 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,114.920 | 4,837,568.130 | 337.7  |
| FUGI1 | PBPHR099 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,115.080 | 4,837,558.130 | 338.05 |
| FUGI1 | PBPHR100 | PM <sub>10</sub> | 24-hr | 1 / 2 | HROFDY | 573,115.240 | 4,837,548.130 | 338.52 |

**Table 4: Modeled Parameters Volume Sources continued (PM<sub>10</sub> & SO<sub>2</sub>)**

| Permit ID           | Emission rate [lb/hr] | Emission rate [g/sec] | Height [m] | SigmaY [m] | SigmaZ [m] | Length [m] | Description                                                                                                                                                                                         |
|---------------------|-----------------------|-----------------------|------------|------------|------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EQUI 219            | 0.00145               | 1.83E-04              | 1.52       | 0.284      | 1.418      |            | Make-up Air Unit                                                                                                                                                                                    |
| EQUI 176            | 1.95                  | 0.245                 | 6.555      | 7.093      | 6.098      | 30.4999    | Uncaptured Grain Receiving and Handling #1 - Scenario 1 - Maximum daily trucks loaded to Pit #1 and balance to Pit #2 - 9,375 ton per day grain received - Receiving hours from 5 a.m. - 7 p.m.     |
| EQUI 178            | 1.16                  | 0.146                 | 3.81       | 7.084      | 3.544      | 30.4612    | Uncaptured Grain Receiving and Handling #2 - Scenario 1 - Maximum daily trucks loaded to Pit #1 and balance to Pit #2 - 9,375 ton per day grain received - Receiving hours from 5 a.m. - 7 p.m.     |
| EQUI 176            | 0.51                  | 0.0646                | 6.555      | 7.093      | 6.098      | 30.4999    | Uncaptured Grain Receiving and Handling #1 - Scenario 2 - Maximum daily trucks loaded to Pit #2 and balance to Pit #1 - 9,375 ton per day grain received - Receiving hours from 5 a.m. - 7 p.m.     |
| EQUI 178            | 2.59                  | 0.326                 | 3.81       | 7.084      | 3.544      | 30.4612    | Uncaptured Grain Receiving and Handling #2 - Scenario 2 - Maximum daily trucks loaded to Pit #2 and balance to Pit #1 - 9,375 ton per day grain received - Receiving hours from 5 a.m. - 7 p.m.     |
| EQUI 5, 8, 177, 179 | 0.49                  | 0.062                 | 6.555      | 7.093      | 6.098      | 30.4999    | DDGS Storage Building - Uncaptured DDGS Handling and Loadout - DDGS loading hours from 5 a.m. - 7 p.m. - EMISFACT used to scale emissions to represent only handling emissions from 7 p.m. - 5 a.m. |
| IA - Space Heating  | 0.0027                | 0.00034               | 1          | 0.233      | 0.465      | 1          | Insignificant Activities - Space Heating                                                                                                                                                            |
| FUGI1               | 0.009841              | 0.00124               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.009841              | 0.00124               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.009841              | 0.00124               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.019682              | 0.00248               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.019682              | 0.00248               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.019682              | 0.00248               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.019682              | 0.00248               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.019682              | 0.00248               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.019682              | 0.00248               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.019682              | 0.00248               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |
| FUGI1               | 0.019682              | 0.00248               | 2.85       | 4.65       | 2.65       | 10         | Corn Route 1 - East Bins - Receiving hours from 5 a.m. - 7 p.m. - 9,375 tons received - Pit 1 receiving at capacity for 14 hours and balance received at Pit 2.                                     |



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|-------|-------------|----------|------|------|------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUGI1 | 0.004477083 | 0.000564 | 2.85 | 4.65 | 2.65 | 10 | Haul Road Sources - Ethanol Loadout, Denaturant Delivery, Chemical Delivery, Brewery Waste Delivery, CO2 Loadout, Corn Oil Loadout, Wetcake Loadout, Syrup Loadout |
| FUGI1 | 0.004477083 | 0.000564 | 2.85 | 4.65 | 2.65 | 10 | Haul Road Sources - Ethanol Loadout, Denaturant Delivery, Chemical Delivery, Brewery Waste Delivery, CO2 Loadout, Corn Oil Loadout, Wetcake Loadout, Syrup Loadout |

## **Attachment 7 - Points Calculator**

## Points Calculator

|                                                |                          |
|------------------------------------------------|--------------------------|
| 1) AI ID No.:                                  | 715                      |
| 2) Facility Name:                              | POET Biorefining Preston |
| 3) Small business? y/n?                        | n                        |
| 4) Air Project Tracking Numbers (including all | 7473, 7985               |
| 5) Date of each Application Received:          | 11/22/23, 3/2/2026       |
| 6) Final Permit No.                            | 04500049-102             |
| 7) Permit Staff                                | Tarik Hanafy             |

|                     |           |
|---------------------|-----------|
| <b>Total Points</b> | <b>50</b> |
|---------------------|-----------|

| <u>Application Type</u>                    | <u>Air Project Tracking No.</u> | <u>Tempo Activity ID</u> | <u>Qty.</u> | <u>Points</u> | <u>Total Points</u> | <u>Total Cost</u> | <u>Details</u> |
|--------------------------------------------|---------------------------------|--------------------------|-------------|---------------|---------------------|-------------------|----------------|
| Administrative Amendment                   |                                 |                          |             | 1             | 0                   | \$ -              |                |
| Minor Amendment                            |                                 |                          |             | 4             | 0                   | \$ -              |                |
| Applicability Request                      |                                 |                          |             | 10            | 0                   | \$ -              |                |
| Moderate Amendment                         |                                 |                          |             | 15            | 0                   | \$ -              |                |
| Major Amendment                            | 7985                            | IND20260001              | 1           | 25            | 25                  | \$ 7,125.00       |                |
| Individual State Permit (not reissuance)   |                                 |                          |             | 50            | 0                   | \$ -              |                |
| Individual Part 70 Permit (not reissuance) |                                 |                          |             | 75            | 0                   | \$ -              |                |

### Additional Points

|                                                                                                                             |      |             |   |    |    |             |              |
|-----------------------------------------------------------------------------------------------------------------------------|------|-------------|---|----|----|-------------|--------------|
| Modeling Review                                                                                                             | 7985 | IND20260001 | 1 | 15 | 15 | \$ 4,275.00 | SO2 modeling |
| BACT Review                                                                                                                 |      |             |   | 15 | 0  | \$ -        |              |
| LAER Review                                                                                                                 |      |             |   | 15 | 0  | \$ -        |              |
| CAA section 110(a)(2)(D)(i)(I) Review (i.e., Transport Rule/CAIR/CSAPR)                                                     |      |             |   | 10 | 0  | \$ -        |              |
| Part 75 CEM analysis                                                                                                        |      |             |   | 10 | 0  | \$ -        |              |
| NSPS Review                                                                                                                 |      |             |   | 10 | 0  | \$ -        |              |
| NESHAP Review                                                                                                               |      |             |   | 10 | 0  | \$ -        |              |
| Case-by-case MACT Review                                                                                                    |      |             |   | 20 | 0  | \$ -        |              |
| Netting                                                                                                                     |      |             |   | 10 | 0  | \$ -        |              |
| Limits to remain below threshold                                                                                            | 7985 | IND20260001 | 1 | 10 | 10 | \$ 2,850.00 | Avoid PSD    |
| Plantwide Applicability Limit (PAL)                                                                                         |      |             |   | 20 | 0  | \$ -        |              |
| AERA review                                                                                                                 |      |             |   | 15 | 0  | \$ -        |              |
| Variance request under 7000.7000                                                                                            |      |             |   | 35 | 0  | \$ -        |              |
| Confidentiality request under 7000.1300                                                                                     |      |             |   | 2  | 0  | \$ -        |              |
| <u>EAW review</u>                                                                                                           |      |             |   |    | 0  |             |              |
| Part 4410.4300, subparts 18, items A and B; and 29                                                                          |      |             |   | 15 | 0  | \$ -        |              |
| Part 4410.4300, subparts 8, items A & B; 10, items A to D; 16, items A & D; 17, items A to C & E to G; and 18, items C to F |      |             |   | 35 | 0  | \$ -        |              |
| Part 4410.4300, subparts 4; 5 items A(1) and A(2); 13; 15; 16, items B & C; and 17 item D                                   |      |             |   | 70 | 0  | \$ -        |              |

**Add'l Points 25**

### NOTES:

**Total Additional Fee is \$7,125.00**