DQ #7811

MINNESOTA POLLUTION CONTROL AGENCY

520 Lafayette Road North
St. Paul, MN 55155-4194

RECEIVED
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BY:

SCP-01: Submittal cover page

Permit application/notification/ determination request fee submittal

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 5.

Check from: Washington County
Check #: 580612
Amount of Check: 1140
Date of Check:

1a) AQ Facility ID number: 00300274 1b) ~~Agency Interest ID number~~: 261887

2) Facility name: Washington County North Environmental Center Yard Waste Site

3) Submittal is (choose from the following options and then complete the remainder of item 3 as directed):

- ☐ The final certified (or recertified) version of a previously-submitted permit application. **Complete Section 3A.**
- ☐ Additional or supplemental information requested by permit staff during the permit-writing process. **Complete Section 3A.**
- ☐ A request that the Minnesota Pollution Control Agency (MPCA) make an applicability determination. **Complete Section 3A.**
- ☐ An application for a new Individual Part 70 or State Permit. **Complete Section 3B.**
- ☐ An application for reissuance of an Individual Part 70 or State Permit. **Complete Section 3B.**

Note: Applications for reissuance must be submitted using the MPCA's e-Services website at https://www.pca.state.mn.us/data/e-services. Applications outside of the e-services website will only be accepted if there is a request for confidentiality.

- ☐ An application for an amendment to an existing Individual Part 70 or State Permit. **Complete Section 3B.**
- ☒ An application for a Registration Permit, Capped Permit, or General Permit. **Complete Section 3C.**
- ☐ An application for an administrative change to an existing Registration, Capped, or General Permit. **Complete Section 3C.**

Note: Once the e-Service is available, registration, Capped, and General permit holders can electronically apply for an administrative change to their permit through MPCA's e-Services website at https://www.pca.state.mn.us/data/e-services. At some point, permit holders will be required to use e-Services for administrative permit changes. After that, paper change requests submitted will be denied. Check the MPCA website for the current status.

- ☐ A notification required under Minn. R. 7007.1150(C); Minn. R. 7007.1250, subp. 4; Minn. R. 7007.1350; Minn. R. 7007.0800, subp. 10, item B. **Complete Section 3D.**
- ☐ A notification from a hot mix asphalt plant holding a Registration Permit of the intent to incorporate ground tear-off shingles and/or manufacturer scrap shingles in the hot mix asphalt. **Complete Section 3D.**

Section 3A – Request for applicability determination, recertification of a previously-submitted permit application, or supplement to a previously-submitted permit application

Use this section only if your submittal is one of the following:

- The final version of a previously submitted permit application, incorporating changes negotiated through the permitting process, or
- Submittal of additional or supplemental information requested by permit staff during the permit-writing process, or
- A request for the MPCA to make an applicability determination.

For final versions and supplemental information, enter the "tracking number" which can be obtained from the MPCA permit staff working on the permit.

Check one of the boxes below. Do not complete Sections 3B, 3C, or 3D. Continue with item 4 of the form.

Choose one of the following:		**Quantity**	**Points**	**Total points**
☐ Recertification of a previously-submitted permit application – tracking number:		NA	NA	NA
☐ Supplement to a previously-submitted permit application – tracking number:		NA	NA	NA
☐ An Applicability Determination Request			x 10 =	

Section 3B – Application for an Individual Part 70 or State Permit, reissuance of an Individual Part 70 or State Permit, or amendment of an Individual Part 70 or State Permit

Choose one of the following:

- ☐ This is the original application or replacement for a denied or withdrawn application. Complete the table below.
- ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application. Enter the tracking number of the incomplete application being replaced: _____. A new fee is not required, so completion of the table below is not necessary.
- ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application. Enter the tracking number of the incomplete application being replaced: _____. Complete the table below.

If your submittal includes notifications that do not require a permit application, also complete Section 3D.

Choose one of the following:	Quantity	Points	Total points
☐ Application for an Individual Part 70 Permit		x 75 =	
☐ Application for an Individual State Permit		x 50 =	
☐ Application for reissuance of an expiring Individual Part 70 or State Permit (does not include modifications to a permit that require an amendment) **Note:** Applications outside of the e-services website will only be accepted if there is a request for confidentiality.			
Expiration date: _____ (mm/dd/yyyy) Application due date (180 days prior to expiration): _____ (mm/dd/yyyy)	NA	NA	NA
☐ Application for a major amendment to an Individual State or Part 70 Permit ☐ Includes reconstruction or modification of a New Source Performance Standards (NSPS) Affected Facility not subject to New Source Review		x 25 =	
☐ Application for a moderate amendment to an Individual State or Part 70 Permit		x 15 =	
☐ Application for a minor amendment to an Individual State or Part 70 Permit		x 4 =	
☐ Application for an administrative amendment to an Individual State or Part 70 Permit. For administrative amendments to individual permits, use the MPCA's e-Services website at https://www.pca.state.mn.us/data/e-services. Administrative amendment applications outside of the e-services website will only be accepted if there is a request for confidentiality.		x 1 =	

Additional information (check all that apply):

- ☐ Submittal was preceded by pre-application work with the MPCA (for example: dispersion modeling or modeling protocol review, Air Emission Risk Analysis (AERA) review, environmental review). The tracking number associated with the preapplication work is: _____

Date preapplication work was submitted: _____

- ☐ Permit will replace an existing permit of a different type (e.g., replacing a Capped Permit with an Individual State Permit, or replacing a Part 70 General Permit with an Individual Part 70 Permit).
- ☐ Permit is for construction of a new facility.
- ☐ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an Air Emission Permit.
- ☐ Project is subject to Prevention of Significant Deterioration (PSD) (40 CFR § 52.21). Send a complete copy of the application to U.S. Environmental Protection Agency (EPA) Region V (see instructions).
- ☐ Permit is required because of installation or modification of a Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) and/or a Part 60 NSPS Affected Facility at a Stationary Source with Potential-to-Emit below all permit thresholds (Minn. R. 7007.0500, subp. 2.C.(1)).

Section 3C – Application for a Registration, Capped, or General Permit

Choose one of the following:

- ☒ This is the original application or replacement for a denied or withdrawn application. Complete the table below.
- ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application. Enter the tracking number of the incomplete application being replaced: _____. A new fee is not required, so completion of the table below is not necessary.
- ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application. Enter the tracking number of the incomplete application being replaced: _____. Complete the table below.

If your submittal includes notifications that do not require a permit application, also complete Section 3D.

Choose one of the following:	Quantity	Points	Total points
☐ Application for a Registration Permit ☐ Option A ☐ Option B ☐ Option C ☐ Option D		x 2 =	
☒ Application for a Capped Permit ☐ Option 1 ☒ Option 2	1	x 4 =	4
☐ Application for a Part 70 General Permit ☐ Manufacturing General Permit		x 4 =	
☐ Application for a State General Permit ☐ Nonmetallic Mineral Processing General Permit		x 3 =	
☐ Application for an administrative change to an existing Registration, Capped, or General Permit (e.g., change of facility ownership)		x 1 =	

Additional information (check all that apply):

- ☐ Permit will replace an existing permit of a different type (e.g., replacing a Registration Permit with a Capped Permit; replacing an Option B Registration Permit with an Option D Registration Permit; etc.)
- ☐ Permit is required for construction of a new facility.
- ☒ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an Air Emission Permit.
- ☐ Permit is required because of a modification or change making the facility ineligible for its existing Air Emission Permit.
- ☐ Submittal was preceded by pre-application work with the MPCA (for example: dispersion modeling or modeling protocol review, Air Emission Risk Analysis (AERA) review, environmental review or the facility was notified of a petition for Environmental Review). The tracking number associated with the preapplication work is:

Section 3D – Notifications

If your submittal also includes a permit application, then also complete Section 3A, 3B, or 3C as applicable. Check all applicable boxes below, then continue with item 4 of the form.

- ☐ A notification of accumulated insignificant activities (Minn. R .7007.1250, subp. 4)
- ☐ A notification of installation of pollution control equipment (Minn. R. 7007.1150, item C)
- ☐ A notification of replacement of a unit (Minn. R. 7007.1150, item C)
- ☐ A notification of replacement of controls with listed controls (Minn. R. 7007.1150, item C)
- ☐ A notification of changes that contravene a permit term (Minn. R .7007.1350)
- ☐ A notification from a hot mix asphalt plant including a request to incorporate ground tear-off shingles and/or manufacturer scrap shingles in the hot mix asphalt (applies to Registration Permits) Minn. R. 7011.0913, subp. 3)

4) Total points ("total points" from Section 3A, 3B, or 3C) 4

5) Total application fee

4 (total points from item 4) x $285 = $ 1140 (fee amount)

The application fee amount is $285 per point, payable to the MPCA. Send your payment ("fee amount") with your submittal. The fee is not refundable, per Minn. R. 7002.0016, subp. 1. There may be additional fees assessed during processing of your request, as required by Minn. R. ch. 7002.

Note: If an application is resubmitted for a different type of amendment or permit, the original fee is not refundable nor transferable. The resubmitted application fee must be paid in full.

6a) Confidentiality statement

- ☒ This application does not contain material claimed to be confidential under Minn. Stat. §§ 13.37, subd. 1(b) and 116.075. Skip item 6b, go to item 7.
- ☐ This application contains material which is claimed to be confidential under Minn. Stat. §§ 13.37, subd. 1(b) and 116.075. Complete Item 6b. Your submittal must include both Confidential and Public versions of your application.

Registration Permit applicants may not claim any portion of their application as confidential. If applying for a Registration Permit or an administrative change to a Registration Permit, you must check the first box above ("This application does not contain…..").

☐ Confidential copy of application attached ☐ Public copy of application attached

6b) Confidentiality certification

To certify data for the confidential use of the MPCA, a responsible official must read the following, certify to its truth by filling in the signature block on the following page, and provide the stated attachments.

☐ I certify that the enclosed permit application(s) and all attachments have been reviewed by me and do contain confidential material. I understand that only specific data can be considered confidential and not the entire application or permit. I certify that I have enclosed the following to comply with the proper procedure for confidential material:

- ☐ I have enclosed a statement identifying which data contained in my application I consider confidential, and I have explained why I believe the information qualifies for confidential (or non-public) treatment under Minnesota Statutes.
- ☐ I have explained why the data for which I am seeking confidential treatment should not be considered "emissions data" which the MPCA is required to make available to the public under federal law.
- ☐ I have enclosed an application containing all pertinent information to allow for completion and issuance of my permit. This document has been clearly marked "confidential".
- ☐ I have enclosed a second copy of my application with the confidential data redacted (blacked out, not omitted or deleted entirely). It is evident from this copy that information was there, but that it is not for public review. This document has been clearly marked "public copy".

Owner responsible official:

Print name: _____

Title: _____

Signature: _____

Date (mm/dd/yyyy): _____

Operator responsible official (if applicable)

Print name: _____

Title: _____

Signature: _____

Date (mm/dd/yyyy): _____

Additional owner/operator responsible official (if applicable):

Check applicable: ☐ Owner ☐ Operator.

Print name: _____

Title: _____

Organization: _____

Signature: _____

Date (mm/dd/yyyy): _____

Additional owner/operator responsible official (if applicable)

Check applicable: ☐ Owner ☐ Operator.

Print name: _____

Title: _____

Organization: _____

Signature: _____

Date (mm/dd/yyyy): _____

7) Submittal certification

I certify under penalty of law that the enclosed documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I also certify, in accordance with Minn. R. 7007.0500, subp. 2 (K)(2) and subp. 2 (K)(3), that I have reviewed the procedures implemented by my facility to maintain compliance and that those procedures are, to the best of my knowledge and belief, reasonable to maintain compliance with all applicable requirements, including those that will become applicable during the term of the permit.

I also certify, in accordance with Minn. R. 7007.1450, subp. 4(D), that if this application requests the use of the minor or moderate permit amendment procedures, the proposed change is not part of a larger project which, taken as a whole, would not qualify for treatment as a minor or moderate permit amendment.

Choose one of the following:

☒ I certify that no construction is associated with the permit action sought by this permit application.

☐ I certify that my project includes construction, but construction has not yet been started except as allowed under Minn. R. 7007.1110, subp. 10 or Minn. R. 7007.1250, subp. 4, and will not begin until the permit is issued except as allowed under Minn. R. 7007.1110, subp. 12; Minn. R. 7007.1142, subp. 2; Minn. R. 7007.1150, item C; or Minn. R. 7007.1450, subp. 7.

☐ My project includes construction, and construction other than what is allowed under Minnesota Rules has been started.

Choose one of the following:

☒ I certify that my Facility is or will be located **outside** of the cumulative levels and effects (CL&E) statute area in South Minneapolis (approximately 1.5 miles around Hiawatha Avenue and 28th Street intersection).

☐ I certify that my Facility is or will be located **inside** of the cumulative levels and effects (CL&E) statute area in South Minneapolis (approximately 1.5 miles around Hiawatha Avenue and 28th Street intersection). I understand that the CL&E process applies before a permit can be issued.

Owner responsible official

Print name: David Brummel

Title: PHE Director

Signature: David Brummel

Date (mm/dd/yyyy): 5/28/2025

Operator responsible official (if applicable)

Print name: _____

Title: _____

Signature: _____

Date (mm/dd/yyyy): _____

Additional owner/operator responsible official (if applicable)

Print name: _____

Title: _____

Organization: _____

Signature: _____

Date (mm/dd/yyyy): _____

Additional owner/operator responsible official (if applicable)

Print name: _____

Title: _____

Organization: _____

Signature: _____

Date (mm/dd/yyyy): _____

8) Package submittal

Applications, notifications, and/or requests that are submitted without authorized signature(s) (under submittal certification for all applications and under confidentiality certification if you are seeking confidential treatment of any information in the application); without required forms, and/or without the required application fee, will be returned. You must submit at least one SCP-01 that bears the original signature(s) (i.e., is not a photocopy of the signed signature page). Please make your check out to the Minnesota Pollution Control Agency. Send the complete application package and check to:

Fiscal Services – 6th Floor
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

You may choose to submit your application as a "pdf" file on an electronic media, such as a compact disc (CD) or USB drive. If you choose this option, you must still include a paper copy of any form that requires a signature.

Instructions for submittal cover page

1a) AQ Facility ID number -- Fill in your Air Quality (AQ) Facility Identification (ID) number. This is the first eight digits of the permit number for all permits issued under the operating permit program. If your facility has never been issued a permit under this program, leave this line blank.

1b) Agency Interest ID number -- Fill in your Agency Interest ID number. This is an ID number assigned to your facility through the Tempo database. If you have never had an air quality permit or don't know this number, leave this line blank.

2) Facility name -- Enter your facility name.

3) This submittal is for -- Check the appropriate box describing what you are submitting. Then proceed to the section indicated (Section 3A, 3B, 3C, or 3D) and follow the applicable instructions.

Section 3A

Complete this section if your submittal is a supplement to a previously-submitted permit application, a recertification of a previously-submitted permit application, or a request for the MPCA to make an applicability determination.

Don't use this section if you are resubmitting a new application, either for the first time or as a replacement for an incomplete or denied permit application.

- Check the "Recertification of a previously-submitted permit application" box only if your submittal is a final version of a previously submitted permit application, incorporating changes negotiated through the permitting process. Enter the "tracking number" obtained from the MPCA permit staff working on the permit.

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-00

Capped Permit Qualifications Review List

Air Quality Permit Program

Doc Type: Permit Application

Note: You must submit this form as part of your capped permit application package.

AQ Facility ID No.: _____ AQ File No.: _____

Facility Name: Washington County North Environmental Center Yard Waste site

The following list of questions will help you to determine if you qualify for the capped emission permit. The capped permit contains limitations to keep the potential-to-emit for criteria and hazardous air pollutants below federal permitting thresholds. You can choose between an option 1 and an option 2 capped permit. Option 1 has higher allowable facility-wide emission limits than option 2, but requires tracking of emissions from insignificant activities. Requirements associated with the capped permit can be found in Minn. R. 7007.1140 to 7007.1148. (See https://www.revisor.mn.gov/rules/?id=7007.) Other information relating to the capped permit can be found at http://www.pca.state.mn.us/hqzq483.

Capped Permit Emission Thresholds for Options 1 and 2

POLLUTANT	Option 1 Threshold (ton/year)	Option 2 Threshold (ton/year)
Hazardous Air Pollutants (HAP)	9.0 tons per year for a single HAP 20 tons per year total for all HAPs	8.0 tons per year for a single HAP 20 tons per year total for all HAPs
Particulate Matter (PM)	90 tons per year	75 tons per year
PM smaller than 10 microns (PM_{10})	90 tons per year	75 tons per year
Volatile Organic Compounds (VOC)	90 tons per year	85 tons per year
Sulfur Dioxide (SO_2)	90 tons per year	90 tons per year
Nitrogen Oxides (NO_x)	90 tons per year	85 tons per year
Carbon Monoxide (CO)	90 tons per year	85 tons per year
Lead (Pb)	0.50 tons/year	0.50 tons/year
Carbon Dioxide Equivalent (CO_2e)	90,000 tons/year	85,000 tons/year

Questionnaire

Complete the following questions to determine if your stationary source qualifies for the capped permit. If you do not qualify for the capped permit, you must submit a permit application for a registration, Part 70, General, or State permit before you make a modification to your facility or an installation and operation permit for the modification under Minn. R. 7007.0750, subp. 5. You may not begin actual construction on the modification until the appropriate permit is obtained.

1. Which capped permit option are you applying for?
   - ☐ Capped permit Option 1; Go to question 2.
   - ☒ Capped permit Option 2; Go to question 3.
2. Will you accept a permit condition to limit actual emissions to less than the Option 1 thresholds listed in the table above based on a 12-month monthly rolling sum?
   - ☐ Yes; go to question 4.
   - ☐ No; your stationary source does not qualify for the capped permit.
3. Will you accept a permit condition to limit actual emissions to less than the Option 2 thresholds listed in the table above based on a 12-month monthly rolling sum?
   - ☒ Yes; go to question 5.
   - ☐ No; your stationary source does not qualify for the capped permit.
4. Will you accept a permit condition to calculate emissions from those insignificant activities that are quantifiable on a monthly basis? See CAP-IA Insignificant Activities List for more information.
   - ☒ Yes; Go to question 5.
   - ☐ No; evaluate if you will qualify for Option 2; otherwise your stationary source does not qualify for the capped permit.

5. You must perform an ambient air quality assessment as described in Minn. R. 7007.1148 to be eligible for a capped permit. Were the 1-hour, 3-hour, and 24-hour SO_2; the 24-hour PM_{10}; and annual Nitrogen Dioxide (NO_2) concentrations predicted in the assessment at and beyond the property line of your facility lower than the corresponding standard in Minn. R. 7009.0080? See http://www.pca.state.mn.us/hqzq483 for more information about the assessment.
   ☒ Yes, go to question 6.
   ☐ No; your stationary source does not quality for the capped permit.
6. In performing the ambient air quality assessment, did you assume any limits or conditions not contained in Minn. R. 7007.1140 to 7007.1148? Note that facilities with significant PM_{10} emissions, such as those with material handling operations, may have difficulty successfully completing the assessment without taking production or hourly limits not contained in a capped permit.
   ☐ Yes, your stationary source does not quality for the capped permit.
   ☒ No; go to question 7.
7. Are any of the emission units at your stationary source subject to any New Source Performance Standards other than 40 CFR pt. 60 Subparts Dc, I, K, Ka Kb, DD, EE, GG, SS, XX, JJJ, TTT, IIII, or JJJJ? If you have modified (as defined in 40 CFR § 60.14), reconstructed (as defined in 40 CFR § 60.15) or constructed the described emission source on or after the effective date listed in 40 CFR pt. 60, your stationary source may be subject to the requirements, see CAP-GI-09D Requirements Form.
   ☐ Yes, your stationary source does not qualify for the capped permit.
   ☒ No; go to question 8.
8. Are any of the emission units at your stationary source subject to a National Emission Standards for Hazardous Air Pollutant Sources (NESHAPS) standard other than one of the area source NESHAPS standards listed on Form CAP-GI-09A, question 1 (e.g., halogenated solvent cleaners, chromium plating, etc.)? See CAP-GI-09A Requirements Form for more information.
   ☐ Yes, your stationary source does not qualify for the capped permit.
   ☒ No; go to question 9.
9. Was (is) an environmental review required for your stationary source? (i.e., new stationary sources that have a potential to emit of 100 tons or more of any single air pollutant, and for stationary source modifications that will result in a single pollutant's potential increase in emissions of 100 tons per year or more).
   ☐ Yes; go to question 10.
   ☒ No; go to question 11.
10. Did you assume any specific conditions or limits not contained in Minn. R. 7007.1140 to 7007.1148 in obtaining a negative declaration in an environmental assessment worksheet or as a mitigation measure in an environmental impact statement?
   ☐ Yes; your stationary source does not qualify for the capped permit.
   ☒ No; go to question 11.
11. Is your facility required to obtain a permit under Minn. R. 7007.0200, subp. 3, acid rain affected sources; Minn. R. 7007.0200, subp. 4, solid waste incinerators and waste combustors; Minn. R. 7007.0200, subp. 5, other part 70 sources; Minn. R. 7007.0250, subp. 3, state implementation plan required state permit; or Minn. R. 7007.0250, subp. 6, waste combustors?
   ☐ Yes; your stationary source does not qualify for the capped permit.
   ☒ No; go to question 12.
12. Does your facility produce fuel grade ethanol or is a sector-based state general permit available for the source category your facility is in? (The only sector-based state general permit currently available is for sand and gravel operations.)
   ☐ Yes; your stationary source does not qualify for the capped permit.
   ☒ No; go to question 13.
13. Is your stationary source subject to any State Implementation Plan (SIP) limits or Best Available Control Technology (BACT) limits?
   ☐ Yes; your stationary source does not qualify for the capped permit.
   ☒ No; go to question 14.
14. In qualifying for the capped permit, will you assume the use any control equipment or control efficiencies not contained in the state Control Equipment rule (Minn. R. 7011.0060 to 7011.0080)?
   ☐ Yes; your stationary source does not qualify for the capped permit.
   ☒ No; go to question 15.
15. Have any production limits been imposed on your facility as a result of performance testing?
   ☒ No; your facility qualifies for the capped permit. Complete the remainder of the application forms.
   ☐ Yes; your stationary source does not qualify for the capped permit.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-IA

Insignificant activities

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2

1a) AQ Facility ID number: _____ **1b)** Agency Interest ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

3) Check and describe insignificant activities

	Rule citation	Description of activities at the facility
☐	7007.1300, subp. 3(A)	
☐	7007.1300, subp. 3(B)(1)	
☐	7007.1300, subp. 3(B)(2)	
☐	7007.1300, subp. 3(C)(1)	
☐	7007.1300, subp. 3(C)(2)	
☐	7007.1300, subp. 3(D)	
☐	7007.1300, subp. 3(E)	
☐	7007.1300, subp. 3(F)	
☐	7007.1300, subp. 3(G)	
☐	7007.1300, subp. 4	
☐	7008.4100	
☐	7008.4110	

4) If you are applying for an option 1 capped permit for your facility, have you included all quantifiable insignificant activities on the appropriate forms (e.g. CAP-GI-04, CAP-GI-05B, CAP-GI-05C, CAP-GI-07, etc)?

☐ Yes ☒ No I am applying for an option 2 capped permit.

Form CAP-IA instructions

Three tables of insignificant activities are provided below.

- **Table IA-01.1, Insignificant activities not required to be listed**, specifies those activities that **do not** need to be included in your permit application.
- **Table IA-01.2, Insignificant activities required to be listed,** specifies those activities that must be included in your application, on the CAP-IA form.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-01

Facility Information for Capped Permits

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 3.

1a) AQ Facility ID number: _____ **1b)** Agency Interest ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

3) Facility location

Street Address: 6065 Headwaters Parkway

City: Forest Lake County: Washington Zip code: 55025

Note: If the facility is or will be located within the city limits of Minneapolis, attach a map showing the exact location.

Mailing Address: _____

City: _____ State: _____ Zip code: _____

4) Corporate/Company Owner

Name: Washington County

Mailing Address: 14949 62nd St N

City: Stillwater State: MN Zip code: 55082

Owner Classification: ☐ Private ☒ Local Govt. ☐ State Govt. ☐ Federal Govt. ☐ Utility

Legally responsible official

Name: David Brummel Phone: 651-430-6662

Title: Director of Public Health and Environment Department Fax: _____

Mailing Address: 14949 62nd St N

City: Stillwater State: MN Zip code: 55082

Email address: david.brummel@washingtoncountymn.gov

Indicate ownership interest in percent: _____

5) Corporate/Company Operator (if different than owner)

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip code: _____

Legally responsible official:

Name: _____ Phone: _____

Title: _____ Fax: _____

Mailing Address: _____

City: _____ State: _____ Zip code: _____

Email address: _____

6) Additional Corporate/Company owner or operator (if applicable)

Check applicable: ☐ Owner ☐ Operator.

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip code: _____

Legally responsible official *(Continued from question 6 on previous page.)*

Name: _____ Phone: _____
Title: _____ Fax: _____
Mailing Address: _____
_____
City: _____ State: _____ Zip code: _____
Email address: _____
If owner, indicate ownership interest in percent: _____

7) Do you have more Corporate/Company owners and/or operators? ☐ Yes ☒ No
If yes, attach additional sheets with the information indicated in item 6 for each owner and/or operator not listed above.

8) Facility contact person for this permit

Name: Caleb Johnson Phone: 651-430-6680
Title: Community/Environmental Health Program Manager, Sr Fax: _____
Organization: Washington County
Mailing Address: 14949 62nd St N
_____
City: Stillwater State: MN Zip code: 55082
Email address: caleb.johnson@washingtoncountymn.gov

9) All billings for annual fees should be addressed to:

Name: Public Health and Environment Department Phone: 651-430-6655
Title: _____ Fax: _____
Organization: Washington County
Mailing Address: 14949 62nd St N
_____
City: Stillwater State: MN Zip code: 55082
Email address: caleb.johnson@washingtoncountymn.gov

10) Standard Industrial Classification (SIC) Code and description, **and North American Industry Classification System (NAICS) code and description** for the facility:

Primary: 9511 / 924110
Secondary (if applicable): _____ / _____
Tertiary (if applicable): _____ / _____
Primary NAICS code: _____ / _____

11) Primary product produced (or activity performed) at the facility is:

Biochar

12) Facility is: ☐ Stationary ☒ Portable

13) Check the one that applies best to your facility:

☒ New facility planned or under construction (first permit application)
☐ Existing facility, currently operating under Air Emission Permit number: _____
☐ Existing facility, but have never had an Air Emission Permit issued by the MPCA

14) (Reserved for future use)

15) Is environmental review required (either an Environmental Assessment Worksheet (EAW) or an Environmental Impact Statement (EIS)) for this facility?.

☐ Yes ☒ No

Note: If you answered "Yes" to this question, you may also be required to perform an Air Emissions Risk Assessment (AERA). Please call 800-657-3864 or 651-296-6300.

16) Are you required to submit a Toxics Release Inventory (Form R) under SARA Title 313 for this facility? Call the Minnesota Emergency Planning and Community Right-to-Know Act (EPCRA) Program for more information (651-201-7400).

☐ Yes ☒ No

17) Is this facility within 50 miles of another state or the Canadian border:

☐ Yes (specify which ones) _____ ☒ No

18) Brief description of the facility or proposed facility to be permitted (attach additional sheet if necessary):

This project aims to develop and establish a comprehensive woody debris management system, wherein county generated tree debris can be diverted to the highest and best possible use, based on the recoverability of the material and the Minnesota Pollution Control Agency's (MPCA) wood waste hierarchy. Currently, Washington County operates a Yard Waste Collection site at its North Environmental Center campus. Materials accepted include clean cellulosic biomass (CCB) in the form of tree trimmings, branches, and other woody debris. To move this CCB up the MPCA's material management hierarchy, we propose to operate a mobile, non-road carbonizing system that would convert it into a valuable, carbon-rich, porous product, often referred to as biochar. This equipment would be moved to various locations within Washington County. This equipment is self-contained and does not need to be connected to a structure in order to operate. The Environmental Protection Agency (EPA) issued a fact sheet in September 2024 titled, "Fact Sheet on Clean Cellulosic Biomass and Non-Hazardous Secondary Materials Determinations." This fact sheet states that units combusting CCB as a fuel would not be regulated as a solid waste incinerator under Clean Air Act Section 129. It goes on to state that "biochar produced from clean cellulosic biomass is considered a 'traditional product' for the purposes of the regulations found at 40 CFR Section 241.3(d)(2)(iv)." Before the CCB is processed into biochar, it will be collected, sorted, and stored onsite. Due to site limitations, we are limited in the amount of materials we can store. The CCB is both the fuel source for the non-road carbonizing system and the entirety of the valuable final product, biochar. After the biochar is produced, it will be utilized in a variety of environmentally beneficial ways, such as being used as a filtering media for water runoff and an agricultural soil amendment. In both of these applications, the biochar would be used in place of other products, such as activated carbon and various soil amendment products like peat moss and lime. Washington County has entered into an agreement with a local business to operate a non-road carbonizing system for 2,000 hours annually. We estimate this equipment can process a maximum of 12 tons of CCB per hour. Using the contracted operating hours, maximum throughput, and manufacturer-provided air emission testing data, we have calculated the estimated yearly emissions, included.

19) (Reserved for future use)

20) Person preparing this permit application:

Name: Tyler Dale

Title: Sr. Environmental Specalist Email address: tyler.dale@washingtoncountymn.gov

Organization: Washington County

Mailing address 14949 62nd St N

City: Stillwater State: MN Zip code: 55082

Phone: 651-275-7482 Fax: _____ Date (mm/dd/yyyy): 5/22/2025

Instructions for Form CAP-GI-01

1a) **AQ Facility ID number** -- Fill in your Air Quality (AQ) Facility Identification (ID) number. This is the first eight digits of the permit number for all new permits issued under the current operating permit program. If your facility has never been issued a permit under this program, leave this line blank.

1b) **Agency Interest ID number** -- Fill in your agency interest ID number. This is an ID number assigned to your facility through the Tempo database. If you don't know this number, leave this line blank.

2) **Facility name** -- Enter your facility name.

3) **Facility location** -- Fill in the facility's street address and the city and county where the facility is located. Also indicate the facility's mailing address. You may use a P.O. Box number for the mailing address, but not for the street address. If the facility is or will be located within the limits of the City of Minneapolis, include a map showing the exact location of the facility.

To determine if your facility is in or within one mile of an area of environmental justice concern anywhere in the state, use the MPCA's environmental justice screening tool, available here https://arcg.is/vqaGa.

To proactively consider actions for environmental improvement and community engagement, refer to this resource document https://www.pca.state.mn.us/sites/default/files/aq1-69.pdf.

The MPCA's screening tool will be used to determine if the facility's location is within or near an area of environmental justice concern. For facilities within or near areas of environmental justice concern, MPCA may request a meeting to discuss environmental justice, if the facility is already incorporating actions to address environmental justice, and voluntary actions the facility could further take. The EPA's EJScreen tool is available here for additional information on environmental justice indices https://www.epa.gov/ejscreen.

Note: All owners and operators must be listed on the permit application and are included on the permit. An owner or operator is a corporation, partnership, sole proprietorship, municipality, state, federal or other public agency who owns, leases,

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

GI-02

Process Flow Diagram

Air Quality Permit Program

Doc Type: Permit Application

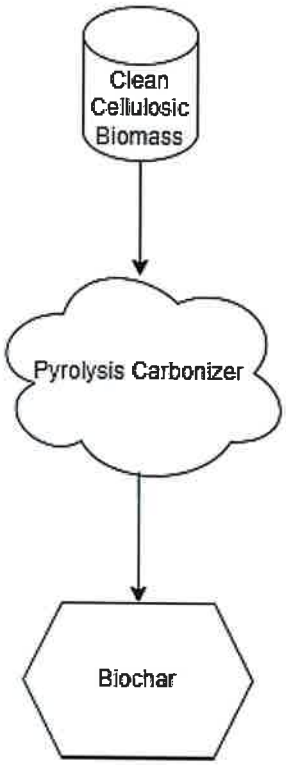
Instructions on Page 2.

1a) AQ Facility ID number: _____

1b) Agency Interest ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

3) Flow diagram: (Insert flow diagram below or attach a separate sheet.)



MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP GI-03

Process Flow Diagram

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2.

1a) AQ Facility ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

3) Facility and Stack/Vent diagram: (Insert Facility and Stack/Vent diagram below or attach a separate sheet.)

Not applicable. The carbonizer does not have a vent or stack.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05A

Pollution control equipment information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2

1a) AQ Facility ID number: _____ **1b)** Agency Interest ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

3a) Control equip. ID number	3b) CE type code	3c) Description	3d) Manufacturer	3e) Model number	3f) Pollutants controlled	3g) Control efficiency

Form CAP-GI-05A instructions

If you have previously received an air emissions permit from the Minnesota Pollution Control Agency (MPCA) or have filed an annual emissions inventory, contact the MPCA at 651-296-6300 or 1-800-657-3864 prior to filling out this form. Ask for a printout of the MPCA's most recent information entered in the permitting and inventory database. Start with (and edit) this information when filling out the Capped Application form.

1a) **AQ Facility ID number** – Fill in your Air Quality (AQ) Facility Number as indicated on Form CAP-GI-01, item 1a.

1b) **Agency interest ID number** – Fill in your agency interest ID number. This is an ID number assigned to your facility through the Tempo database. If you don't know this number, leave this line blank.

2) **Facility name** – Enter your facility name as indicated on Form CAP-GI-01, item 2.

3a) **Control equipment (CE) ID number** – Assign a Control Equipment ID number to each piece of pollution control equipment (e.g., fabric filter or afterburner) or pollution control practice (e.g., dust suppression by water spray). Number the pollution control equipment/practices at your facility sequentially (001, 002, 003, etc). The assigned number will be used in other forms to identify control equipment that is described in this form. This ID number is unique to this piece of equipment and must be used consistently throughout the application.

3b) **CE ID code** – Fill in the appropriate Control Equipment (CE) Type Code from Table CAP-GI-05A.1 at the end of these instructions. The type-code for the control equipment must be entered correctly, since this will be the primary means of recording and identifying the type of air pollution control equipment at this facility.

3c) **Description** – Fill in the appropriate control equipment or control practice description. This description must correspond with the Control Equipment Type Code in the second column (Item 3b).

3d) **Manufacturer** – Fill in the name of the pollution control equipment manufacturer. Pollution control practices such as dust suppression by water spray or chemical oxidation may not use control equipment. In these cases, fill N/A for items 3d and 3e.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05B

Emission Unit Information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2.

1a) AQ Facility ID number: _____ **1b)** Agency Interest ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

3) Fill in a column in the table below for each emission unit (EU/EQUI). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

3a) Emission unit ID number	001			
3b) Emission unit type	Kiln			
3c) Emission unit operator's description	Air curtain carbonizer			
3d) Manufacturer	Ecoverse			
3e) Model number	EcoChar Pheonix 8000			
3f) Max design capacity, material and units	12 units: tons/ Hr material: Wood	units: / material:	units: / material:	units: / material:
3g) Commence construction date (mm/dd/yyyy)	☒ to be determined	☐ to be determined	☐ to be determined	☐ to be determined
3h) Initial startup date (mm/dd/yyyy)	☒ to be determined	☐ to be determined	☐ to be determined	☐ to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method	Not coal burning			
3k) Engine use	unlimited use			
3l) Engine displacement	3.6 Units: l/cyl	Units:	Units:	Units:
3m) Subject to CSAPR?	No			
3n) Electric generating capacity (megawatts)	NA			
3o) SIC code	9511			
3p) Status	Active			
3q) Removal date (mm/dd/yyyy)				

Minnesota Pollution Control Agency

AIR QUALITY
520 LAFAYETTE ROAD NO., ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CAP-GI-05C**
TANK INFORMATION
3/7/06

1) AQ Facility ID No.: _____ 2) Facility Name: **Washington County North Environmental Center Yard Waste Site**

3a) Tank ID No.	3b) Control Equip ID No.	3c) Product(s) Stored	3d) Interior Height (ft.)	3e) Interior Diameter (ft.)	3f) Capacity (1000 gals.)	3g) Construc-tion Type	3h) Support Type (floating roof only)	3i) Number of Columns (column-supported only)	3j) Column Diameter (column-supported only, in ft.)	3k) Deck Type (floating roof only)	3l) Seal Type (floating roof only)	3m) Date Installed or Constructed

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05D

Fugitive emission source information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2

1a) AQ Facility ID number: _____ **1b)** Agency Interest ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

3a) Fugitive source ID number	3b) Pollutant Emitted (particulate matter (PM) or VOC)	3c) Included in ambient assessment?	3d) Description of Fugitive Emission Source
01	PM	No	Dust generated from loading clean cellulosic biomass into the carbonizer from class 5 gravel in loading area.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

GI-05F

Emission source associations

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 3.

1a) AQ Facility ID number: _____ 1b) Agency Interest ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

☐ Check this box if using GI-05F for a *Reissuance application.* You will need the AQ SI details report labeled ***SI-SI relationships***. See the instructions for fields that may be marked "null" in the *SI-SI relationships* report.

Note – If your most recent permit was issued after November 1, 2015 **or** you are applying for reissuance, use Tempo ID numbers for all equipment, stacks, controls, etc. Tempo IDs are in the form EQUIxxx, TREAxxx, STRUxxx, FUGIxxx, etc.

3a) Source ID number	3b) % Flow	3c) Relationship	3d) CE ID number	3e) Start date (mm/dd/yyyy)	3f) End date (mm/dd/yyyy)	3g) % Flow	3h) Relationship	3i) S/V ID number	3j) Start date (mm/dd/yyyy)	3k) End date (mm/dd/yyyy)	3l) Comments
001		is controlled by	NA				sends to	NA			The open top carbonizer does not have a stack.
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
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MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-07

Capped Permit facility emissions summary

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2

1a) AQ Facility ID number: _____ **1b)** Agency Interest ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

3a) Emission source type	**3b)** Emission source ID number	**3c)** CAS#:			CAS#:			CAS#:		
		3d) Pollutant name:	Carbon Monoxide		Pollutant name:	Nitrogen Dioxide		Pollutant name:	Particulate Matter (PM10)	
		3e) Potential		**3f)** *optional*	Potential			Potential		
		lbs per hr	tpy unrestricted	Actual tons per yr	lbs per hr	tpy unrestricted	Actual tons per yr	lbs per hr	tpy unrestricted	Actual tons per yr
EU	001	21.48	94.08	21.48	15	65.7	15	11.64	50.98	11.64

4)	Potential lbs/hr	Unrestricted potential tpy	Actual TPY *required*	Potential lbs/hr	Unrestricted potential tpy	Actual TPY *required*	Potential lbs/hr	Unrestricted potential tpy	Actual TPY *required*
Total facility	21.48	94.08	21.48	15	65.7	15	11.64	50.98	11.64

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-07

Capped Permit facility emissions summary

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2

1a) AQ Facility ID number: _____ **1b)** Agency Interest ID number: _____

2) Facility name: Washington County North Environmental Center Yard Waste Site

3a) Emission source type	**3b)** Emission source ID number	**3c)** CAS#:			CAS#:			CAS#:		
		3d) Pollutant name:	Sulfer Dioxide		Pollutant name:	Methane		Pollutant name:		
		3e) Potential		**3f)** *optional*	Potential			Potential		
		lbs per hr	tpy unrestricted	Actual tons per yr	lbs per hr	tpy unrestricted	Actual tons per yr	lbs per hr	tpy unrestricted	Actual tons per yr
EU	001	1.04	4.57	1.04	15.6	68.33	15.6			

4)	Potential lbs/hr	Unrestricted potential tpy	Actual TPY *required*	Potential lbs/hr	Unrestricted potential tpy	Actual TPY *required*	Potential lbs/hr	Unrestricted potential tpy	Actual TPY *required*
Total facility	1.04	4.57	1.04	15.6	68.33	15.6			

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-09

Capped Permit Requirements Form

Air Quality Permit Program

Doc Type: Permit Application

Note: You must submit this form as part of your capped permit application package.

AQ Facility ID No.: _____ AQ File No.: _____

Facility Name: Washington County North Environmental Center Yard Waste Site

Federal and State Requirements

This packet of forms, **CAP-GI-09 Requirements**, will help you to determine the federal and state requirements with which your facility must comply. Be advised that you must include any applicable requirement that may not be addressed in this part of the application.

The first section of this form asks questions to find out if your facility is subject to specific federal and state regulations. To assist you in filling out this form, there are five attachments, forms **CAP-GI-09 A, D, F, G and I**. This form will direct you to each of the attachments as necessary, which will help you determine if your facility is subject to these regulations. When you are directed to an attachment, complete it as required, but *always* return to this **CAP-GI-09 Requirements** form.

In this form and the others in the CAP-GI-09 series, attach additional pages if the space provided is not sufficient.

1) National Emission Standards for Hazardous Air Pollutants for Source Categories
(NESHAP for Source Categories, 40 CFR pt. 63)

1a) To determine if any requirements for the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Source Categories (40 CFR pt. 63) apply to your facility, you must complete attached form **CAP-GI-09A Requirements: NESHAP for Source Categories** (40 CFR pt. 63).

1b) After completing form CAP-GI-09A, check one of the following boxes:

☐ **Yes**, my facility **is currently** subject to an area source NESHAP for Source Categories requirements. Go to question 1c.

☒ **No**, my facility **is not currently** subject to NESHAP for Source Categories requirements. Go to question 2.

1c) Check the box that best describes your source's compliance status with regards to applicable area source NESHAP requirements on the date of application and then go to question 2:

☐ Compliance

☐ Non-compliance. Describe: _____

2) Standards of Performance for New Stationary Sources
(NSPS, New Source Performance Standards, 40 CFR pt. 60)

2a) Have you constructed, modified (as defined in 40 CFR § 60.14), or reconstructed (as defined in 40 CFR § 60.15) your emission facility, or any portion thereof, after August 17, 1971?

☒ **No**. Go to question 3.

☐ **Yes**, you may be subject to this regulation. Complete the attached form ***CAP-GI-09D Requirements: NSPS.***

2b) After completing the above question (and the attachment if necessary) check one of the following boxes:

☐ **Yes**, my facility (or a portion of it) **is** subject to NSPS requirements. My facility is only subject to one or more of the 14 NSPS requirement listed in Minn. R. 7007.1140, subp. 2 (E). Go to question 2c.

☐ **No**, my facility **is not** subject to NSPS requirements. Go to question 3.

2c) Check the box that best describes your source's compliance status with regards to applicable NSPS requirements on the date of application and then go to question 3:

☐ Compliance

☐ Non-compliance. Describe: _____

3) Stratospheric Ozone Protection
(1990 Clean Air Act, as amended, Sections 601-618)

3a) To determine if this federal regulation applies to your facility, you must complete the attached form **CAP-GI-09F Requirements: Stratospheric Ozone**.

3b) After completing form **CAP-GI-09F Requirements: Stratospheric Ozone**, check one of the following boxes:

☐ **Yes**, my facility **is** subject to this requirement. Go to question 3c.

☒ **No**, my facility **is not** subject to this requirement. Go to question 4.

3c) Check the box that best describes your source's compliance status with regards to applicable stratospheric ozone requirements on the date of application and then go to question 4:

☐ Compliance

☐ Non-compliance. Describe: _____

4) Risk Management Programs for Chemical Accidental Release Prevention
(40 CFR pt. 68, Section 112(r) of the Clean Air Act Amendments)

4a) Section 112(r) of the Clean Air Act requires facilities that produce, process, store or use any of the substances listed in form **GI-09G: Risk Management Programs for Chemical Accidental Release Prevention** (40 CFR pt. 68), in amounts greater than the listed thresholds, to develop and implement a risk management plan for accidental releases.

4b) Determine if you produce, process, store or use any of the substances listed in form **CAP-GI-09G: Risk Management Programs for Chemical Accidental Release Prevention**, and check one of the following boxes:

☐ **Yes**, my facility **does** produce, process, store or use one or more of the substances listed in form **CAP-GI-09G**, in amounts exceeding the listed thresholds. Go to question 4c.

☒ **No**, my facility **does not** produce, process, store or use any of the substances listed in form **CAP-GI-09G**, in amounts exceeding the listed thresholds. Go to question 5.

4c) Check the box that best describes your source's compliance status with regards to applicable 112(r) requirements on the date of application and then go to question 5:

☐ Compliance

☐ Non-compliance. Describe: _____

5) Federal Ozone Measures for the Control of Emissions from Certain Sources
(1990 Clean Air Act, as amended, Section 183(e))

5a) Rules have been promulgated under the above section of the Clean Air Act regulating Volatile Organic Compounds (VOCs) from consumer or commercial products that emit VOCs. Does your facility manufacture: (check all that apply)

☐ Household consumer products containing VOCs.

☐ Architectural coatings containing VOCs.

☐ Autobody refinishing coatings containing VOCs.

☒ My facility does not manufacture any of the above. Go to question 6.

5b) If you checked any boxes in question 5a) review the regulations at http://www.epa.gov/ttn/atw/183e/gen/183epg.html to determine whether your facility may be subject to any rules that are adopted under § 183(e) requiring emission reductions. After reviewing the regulations, check one of the following boxes.

☐ Yes, my facility is subject to consumer and commercial products regulation under section183(e). Go to question 5c.

☐ No, my facility is not subject to consumer and commercial products regulation under section183(e). Go to question 6.

5c) Check the box that best describes your source's compliance status with regards to applicable 183(e) requirements on the date of application and then go to question 6:

☐ Compliance

☐ Non-compliance. Describe: _____

6) Minnesota State Air Quality Rules

6a) To determine which Minnesota State rules you may be subject to, go to form **CAP-GI-09I Requirements: State Rules**.

6b) Whether permitted or not, **every business** and activity in Minnesota **is subject to the rules listed in the following table**. Check the box that best describes your source's compliance status with regards to the rules in the following table and other applicable state rules identified in form CAP-GI-09I on the date of application and then go to question 7:

☐ Compliance

☐ Non-compliance. Describe: _____

Title of the Rule	Minnesota Rules (Chapter or Part)	What the Content of the Rule is:
Air Quality Emission Fees	Part 7002.0025 - 7002.0095	Requires facilities to pay emission fees every year within 60 days of MPCA billing.
Air Emission Permits	Parts 7007.0050 - 7007.1850	Outlines when an air emission permit is required and procedures for obtaining one.
Trichloroethylene Ban	Part 7007.0100, subp. 7(X)	Bans facilities from using trichloroethylene after June 1, 2022, including in any manufacturing, processing, or cleaning processes, except as described in Minn. Stat. 116.385 subd. 2(B) and 4. Replacement chemicals must be demonstrated to be less toxic to human health and reviewed in a form approved by the commissioner of the MPCA.
Minnesota and National Ambient Air Quality Standards	Part 7009.0010 - 7009.0080	No one is allowed to emit any of the limited pollutants in such a manner that ambient levels of the pollutant are higher than the maximum level.
Applicability of Standards of Performance	Parts 7011.0010, and 7011.0050	Indicates that facilities must comply with all applicable state air pollution rules.
Circumvention	Part 7011.0020	States that no one may conceal or dilute emissions which would otherwise violate a federal or state air pollution control rule.
Emission Standards for Visible Air Contaminants	Part 7011.0100 - 7011.0120	Outlines restrictions against emitting opaque smoke from facilities.
Preventing Particulate Matter from Becoming Airborne	Part 7011.0150	States that no person shall cause particulate matter to become airborne if it can be avoided with listed preventative measures.
Continuous Monitors	Part 7017.1000	Outlines requirements for continuous monitoring systems.
Performance Tests	Part 7017.2001 - 7017.2060	Outlines procedures and methods for emissions and performance testing if required.
Notifications	Part 7019.1000	Requires facilities to notify the MPCA of shutdowns and breakdowns.
Reports	Part 7019.2000	Requires specific records and reports from facilities with continuous monitoring systems.
Emission Inventory	Part 7019.3000 - 7019.3100	Requires facilities to submit an Emission Inventory Report by April 1 every year.
Motor Vehicles	Part 7023.0100 - 7023.0120	Outlines restrictions against emitting opaque smoke from motor vehicles, trains, boats, construction equipment and stationary internal combustion engines.
Noise Pollution Control	Part 7030.0010 - 7030.0080	Sets noise standards which cannot be exceeded.

7) You have completed this form.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-09A

Capped Permit Requirements: NESHAP for Source Categories (40 CFR pt. 63)

Air Quality Permit Program

Doc Type: Permit Application

National Emission Standards for Hazardous Air Pollutants for source categories (NESHAP for Source Categories, 40 CFR pt. 63)

Tables A (Hazardous Air Pollutants) and B (Source Categories) are provided for your reference and to assist with completing CAP-00. They are not used to answer Question 1 on this form.

AQ Facility ID number: _____ Agency Interest ID number: _____

Facility name: Washington County North Environmental Center Yard Waste Site

1) If your source has any equipment that belongs to the following area source categories, place a check in the box next to that category and read the specified NESHAP for Source Categories to determine all applicable requirements for area sources. The rules for these source categories may apply whether or not your facility is considered a major source for hazardous air pollutants. If you check one or more boxes below, you must answer "**Yes**" to question 1b when you return to Form CAP-GI-09. If any part of your facility is subject to a listed standard that requires a Part 70 operating permit, you may not get a Capped Permit but must instead apply for and obtain a Part 70 permit.

- ☐ Acrylic and Modacrylic Fibers Production, 40 CFR § 63 Subpart LLLLLL
- ☐ Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR § 63 Subpart AAAAAAA
- ☐ Carbon Black Production, 40 CFR § 63 Subpart MMMMMM *(see note 1)*
- ☐ Chemical Manufacturing Area Sources, 40 CFR § 63 Subpart VVVVVV *(see note 2)*
- ☐ Chemical Manufacturing: Chromium Compounds, 40 CFR § 63 Subpart NNNNNN *(see note 1)*
- ☐ Chemical Preparations Industry, 40 CFR § 63 Subpart BBBBBBB
- ☐ Chromic acid anodizing **(Chromium Electroplating)**, 40 CFR § 63 Subpart N
- ☐ Clay Ceramics Manufacturing, 40 CFR § 63 Subpart RRRRRR
- ☐ Commercial dry cleaning (Perc) transfer machines, 40 CFR § 63 Subpart M
- ☐ Commercial sterilization facilities, 40 CFR § 63 Subpart O
- ☐ Decorative chromium electroplating **(Chromium Electroplating)**, 40 CFR § 63 Subpart N
- ☐ Electric Arc Furnace Steelmaking Facilities, 40 CFR § 63 Subpart YYYYY *(see note 1)*
- ☐ Ferroalloys Production Facilities, 40 CFR § 63 Subpart YYYYYY
- ☐ Flexible Polyurethane Foam Production and Fabrication, 40 CFR § 63 Subpart OOOOOO
- ☐ Gasoline Dispensing Facilities, 40 CFR § 63 Subpart CCCCCC
- ☐ Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, 40 CFR § 63 Subpart BBBBBB
- ☐ Glass Manufacturing, 40 CFR § 63 Subpart SSSSSS *(see note 1)*
- ☐ Gold Mine Ore Processing and Production, 40 CFR § 63 Subpart EEEEEEE
- ☐ Halogenated solvent cleaners (Degreasing Organic Cleaners), 40 CFR § 63 Subpart T
- ☐ Hard chromium electroplating **(Chromium Electroplating)**, 40 CFR § 63 Subpart N
- ☐ Hospital Sterilizers Using Ethylene Oxide, 40 CFR § 63 Subpart WWWWW
- ☐ Industrial, Commercial, and Institutional Boilers, 40 CFR § 63 Subpart JJJJJJ
- ☐ Iron and Steel Foundries Area Sources, 40 CFR § 63 Subpart ZZZZZ
- ☐ Lead Acid Battery Manufacturing, 40 CFR § 63 Subpart PPPPPP
- ☐ Metal Fabrication and Finishing Sources, 40 CFR § 63 Subpart XXXXXX
- ☐ Nonferrous Foundries: Aluminum, Copper, and Other, 40 CFR § 63 Subpart ZZZZZZ
- ☐ Oil and natural gas production, 40 CFR § 63 Subpart HH
- ☐ Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR § 63 Subpart HHHHHH
- ☐ Paints and Allied Products Manufacturing, 40 CFR § 63 Subpart CCCCCCC
- ☐ Plating and Polishing Operations, 40 CFR § 63 Subpart WWWWWW
- ☐ Polyvinyl Chloride and Copolymers Production, 40 CFR § 63 Subpart DDDDDD
- ☐ Prepared Feeds Manufacturing, 40 CFR § 63 Subpart DDDDDDD
- ☐ Primary Copper Smelting, 40 CFR § 63 Subpart EEEEEE *(see note 1)*
- ☐ Primary Nonferrous Metals: Zinc, Cadmium, and Beryllium, 40 CFR § 63 Subpart GGGGGG *(see note 1)*

☐ Reciprocating Internal Combustion Engines, 40 CFR § 63 Subpart ZZZZ
☐ Secondary aluminum processing, 40 CFR § 63 Subpart RRR
☐ Secondary Copper Smelting, 40 CFR § 63 Subpart FFFFFF *(see note 1)*
☐ Secondary Nonferrous Metals Processing (Brass, Bronze, Magnesium, Zinc), 40 CFR § 63 Subpart TTTTTT
☐ Wood Preserving, 40 CFR § 63 Subpart QQQQQQ

Notes

1. If any part of your facility is subject Subpart(s) MMMMMM, NNNNNN, YYYYY, SSSSSS, EEEEEE, EEEEEEE, GGGGGG, and/or FFFFFF, you must apply for and obtain a Part 70 operating permit; a facility subject to any of these subparts does not qualify for a Capped Permit.
2. If a source subject to this subpart was a major source of HAP and installed control equipment after November 15, 1990, to become an area source of HAP, the source must obtain a Part 70 operating permit, regardless of the facility emissions.

2) Return to Form CAP-GI-09 and answer question 1b.

Table A - Hazardous Air Pollutants

75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisidine
1332214	Asbestos
71432	Benzene
92875	Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis (2-ethylhexyl) phthalate (DEHP)
542881	Bis (chloromethyl) ether
75252	Bromoform
106945	1-Bromopropane (n-propyl bromide)
106990	1,3-Butadiene
156627	Calcium cyanamide
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloroacetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid (isomers and mixture)
95487	0-Cresol
108394	m-Cresol
106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane
84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3'-Dichlorobenzidene
111444	Dichloroethyl ether (Bis(2-chloroethyl)either)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
121697	N,N-Diethyl aniline (N,N- Dimethylaniline)
64675	Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3-Dimethyl benzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1 Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl Sulfate
534521	4,6-Dintro-o-cresol, and salts
51285	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1,4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)
106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl chloride (Chloroethane)
106934	Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2- Dichloroethane)
107211	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane)
50000	Formaldehyde
76448	Heptacholor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclopentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen flouride (hydrofluoric acid)
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)
74873	Methyl chloride (Choromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane)
60344	Methyl hydrazine
74884	Methyl iodide (Iodomethane)
108101	Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis (2-chloroaniline)
75092	Methylene chloride (Dichloromethane)
101688	Methlene diphenyl diisocyanate (MDI)
101779	4,4'-methylenedianiline

Table A - Hazardous Air Pollutants

91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (aroclors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene Oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachloroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine
8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene (TCE) [5]
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixtures)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes

0	Antimony compounds
0	Arsenic compounds (inorganic including arsine)
0	Beryllium compounds
0	Cadmium compounds
0	Chromium compounds
0	Cobalt compounds
0	Coke oven emissions
0	Cyanide compounds
0	Glycol ethers [1]
0	Lead compounds
0	Manganese compounds
0	Mercury compounds
0	Mineral fibers [2]
0	Nickel compounds
0	Polycyclic organic matter [3]
0	Radionuclides [4]
0	Selenium compounds

Note: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

[1] Glycol ethers include mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-$(OCH_2CH_2)_n$-OR' where

n = 1, 2, or 3

R = alkyl C7 or less; or

R = phenyl or alkyl substituted phenyl;

R' = H or alkyl C7 or less; or

OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

Glycol ethers do no include ethylene glycol monobutyl ether (EGBE, 2-Butoxyethanol, CAS Number 111-76-2).

[2] Includes mineral fiber emissions from facilities manufacturing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micron or less.

[3] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.

[4] A type of atom which spontaneously undergoes radioactive decay.

[5] Trichloroethylene (TCE) use on or after June 1, 2022, is banned in Minnesota, under Minnesota Statutes, section 116.385.

Table B – Source Categories

Categories of Major Sources	Subpart	Rule Promulgation Date	Compliance Date for Existing Sources (if applicable)
Acetyl resins production (Generic MACT)	YY	6/29/99	6/29/02
Acrylic fibers/modacrylic fibers production (Generic MACT)	YY	6/29/99	6/29/02
Acrylonitrile-butadiene-styrene production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Aerospace Industry	GG	9/1/95	9/1/98
Alkyd resins production (Misc. Organic Chemical Production and Processes (MON))	FFFF	11/10/03	11/10/06
Amino resins production(Polymers and Resins III)	OOO	1/20/00	1/20/03
Ammonium sulfate production (MON)	FFFF	11/10/03	11/10/06
Asphalt/coal tar application - metal pipes	MMMM	1/2/04	1/2/07
Asphalt Roofing and Processing	LLLLL	4/29/03	5/1/06
Auto and Light Duty Truck Surface Coating	IIII	4/26/04	4/26/07
Benzyltrimethylammonium chloride production (MON)	FFFF	11/10/03	11/10/06
Boat manufacturing	VVVV	8/22/01	8/22/04
Brick and Structural Clay Products Manufacturing	JJJJJ	5/16/03	5/16/06
Butadiene-furfural cotrimer (R-11) production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Butyl rubber production (Polymers and Resins I)	U	9/5/96	3/5/97
Captafol production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Captan production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Carbon Black Production (Generic MACT)	YY	7/12/02	7/12/05
Carboxymethylcellulose production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Carbonyl sulfide production (MON)	FFFF	11/10/03	11/10/06
Cellophane production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Cellulose ethers production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Cellulose food casing manufacturing (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Clay Ceramics Manufacturing	KKKKK	5/16/03	5/16/06
Chelating agents production (MON)	FFFF	11/10/03	11/10/06
Chlorinated paraffins production (MON)	FFFF	11/10/03	11/10/06
4-chloro-2-methyl acid production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Chloroneb production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Chlorothalonil production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Chromic acid anodizing (Chromium Electroplating)	N	1/25/95	1/25/97
Coke Ovens: Charging, Top Side, and Door Leaks	L	10/27/93	varies
Coke Ovens: Pushing, Quenching and Battery Stacks	CCCCC	4/14/03	4/14/06
Combustion (Gas) Turbines	YYYY	3/5/04	3/5/07
Commercial dry cleaning (Perc) transfer machines	M	9/22/93	9/23/96
Commercial sterilization facilities	O	12/6/94	12/6/98
Cyanide Chemicals Manufacturing (Generic MACT)	YY	7/12/02	7/12/05
Dacthal ™ production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Decorative chromium electroplating (Chromium Electroplating)	N	1/25/95	1/25/96
4,6,-dinitro-o-cresol production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03

Table B (continued)

Categories of Major Sources	Subpart	Rule Promulgation Date	Compliance Date for Existing Sources (if applicable)
Engine Test Cells/Stands	PPPPP	5/27/03	5/27/03
Epichlorohydrin elastomers production(Polymers and Resins I)	U	9/5/96	3/5/97
Epoxy resins production (Polymers and Resins II)	W	3/8/95	3/3/98
Ethylene-propylene rubber production (Polymers and Resins I)	U	9/5/96	3/5/97
Ethylidene norbomene production (MON)	FFFF	11/10/03	11/10/06
Explosives production (MON)	FFFF	11/10/03	11/10/06
Ethylene Processes (Generic MACT)	YY	7/12/02	7/12/05
Fabric Printing, Coating, & Dyeing	OOOO	5/29/03	5/29/06
Ferroalloys Production	XXX	5/20/99	5/20/01
Fiberglass Mat Production (wet formed)	HHHH	4/11/02	4/11/05
Flexible Polyurethane Foam Fabrication Operations	MMMMM	4/14/03	4/14/04
Flexible Polyurethane Foam Production	III	10/7/98	10/8/01
Friction Products Manufacturing	QQQQQ	10/18/02	10/18/05
Fume Silica Production (Hydrochloric Acid Production)	NNNNN	4/17/03	4/17/06
Gasoline distribution (Stage 1)	R	12/14/94	12/15/97
Halogenated solvent cleaners (Degreasing Organic Cleaners)	T	12/2/94	12/2/97
Hard chromium electroplating (Chromium Electroplating)	N	1/25/95	1/25/97
Hazardous Waste Combustion		9/30/99	9/30/03
Hazardous Organic NESHAP (Synthetic Organic Chemical Manufacturing Industry)	F,G	4/22/94	5/14/01
	H	4/22/94	5/12/99
	I	4/22/94	5/12/98
Hydrazine production (MON)	FFFF	11/10/03	11/10/06
Hydrochloric acid production	NNNNN	4/17/03	4/17/06
Hydrogen Fluoride Production (Generic MACT)	YY	6/29/99	6/29/02
Hypalon ™ production (Polymers and Resins I)	U	9/5/96	3/5/97
Industrial, Commercial and Institutional Boilers and Process Heaters	DDDDD	5/20/11	3/21/14
Industrial Dry Cleaning (Dry Cleaning)	M	9/22/93	12/20/93
Industrial Cooling Towers	Q	9/8/94	3/8/95
Integrated Iron and Steel Manufacturing	FFFFF	5/20/03	5/20/06
Iron & Steel Foundries	EEEEE	4/22/04	4/22/07
Large Appliance Surface Coating	NNNN	7/23/02	7/23/05
Leather Finishing Operation	TTTT	2/27/02	2/27/05
Lime Manufacturing	AAAAA	1/5/04	1/5/07
Magnetic Tape Surface Coating	EE	12/15/94	12/15/96
Maleic anhydride copolymers production (MON)	FFFF	11/10/03	11/10/06
Manufacture of paints, coating and adhesives (MON)	FFFF	11/10/03	11/10/06
Marine Vessel Loading Operations	Y	9/19/95	9/19/99
Mercury cell Chlor-Alkali plants	IIIII	12/19/03	12/19/06
Metal Can Surface Coating	KKKK	11/13/03	11/13/05
Metal Coil Surface Coating	SSSS	6/10/02	6/10/05
Metal Furniture Surface Coating	RRRR	5/23/03	5/23/06
Methylcellulose production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Methyl methacrylate-acrylonitrile-butadiene-styrene production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97

Table B (continued)

Categories of Major Sources	Subpart	Rule Promulgation Date	Compliance Date for Existing Sources (if applicable)
Methyl methacrylate-butadiene-styrene terpolymers production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Mineral Wool Production	DDD	6/1/99	6/1/02
Miscellaneous Coating Manufacturing	HHHHH	12/11/03	12/11/06
Miscellaneous Metal Parts and Products Surface Coating	MMMM	1/2/04	1/2/07
Municipal Solid Waste Landfills	AAAA	1/16/03	1/16/04
Natural gas transmission and storage	HHH	6/17/99	6/17/02
Neoprene production (Polymers and Resins I)	U	9/5/96	3/5/97
Nitrile butadiene rubber prod. (Polymers and Resins I)	U	9/5/96	3/5/97
Non-nylon polyamides production (Polymers and Resins I)	W	3/8/95	3/3/98
Nutritional Yeast Manufacture	CCCC	5/21/01	5/21/04
Off-site Waste Recovery Operations	DD	7/1/96	2/1/00
Oil and natural gas production	HH	6/17/99	6/17/02
Organic liquids distribution (non-gasoline)	EEEE	2/3/04	2/3/07
Oxybisphenoxarsine (OBPA)/1,3-diisocyanate production (MON)	FFFF	11/10/03	11/10/06
Paper and other webs surface coating	JJJJ	12/4/02	12/4/05
Petroleum refineries - catalytic cracking (fluid and other) units, catalytic reforming units, and sulfur plant units	UUU	4/11/02	4/11/05
Petroleum refineries - Other sources not distinctly listed	CC	8/18/95	8/18/98
Pharmaceuticals production	GGG	9/21/98	9/21/01
Phenolic resins production (Polymers and Resins III)	OOO	1/20/00	1/20/03
Phosphate fertilizers production	BB	6/10/99	6/10/02
Phosphoric acid manufacturing	AA	6/10/99	6/10/02
Photographic chemicals production (MON)	FFFF	11/10/03	11/10/06
Phthalate plasticizers production (MON)	FFFF	11/10/03	11/10/06
Plastic parts and products surface coating	PPPP	4/19/04	4/19/07
Plywood & composite wood products	DDDD	7/30/04	9/28/07
Polyether polyols production	PPP	6/1/99	6/1/02
Polybutadiene rubber production (Polymers and Resins I)	U	9/5/96	3/5/97
Polycarbonates production (Generic MACT)	YY	6/29/99	6/29/02
Polyester resins production (MON)	FFFF	11/10/03	11/10/06
Polyethylene terephthalate production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Polymerized vinylidene chloride production (MON)	FFFF	11/10/03	11/10/06
Polymethyl methacrylate resins production (MON)	FFFF	11/10/03	11/10/06
Polystyrene production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Polysulfide rubber production (Polymers and Resins I)	U	9/5/96	3/5/97
Polyvinyl acetate emulsions production (MON)	FFFF	11/10/03	11/10/06
Polyvinyl alcohol production (MON)	FFFF	11/10/03	11/10/06
Polyvinyl butyral production (MON)	FFFF	11/10/03	11/10/06
Polyvinyl chloride and copolymers production	J	7/10/02	7/10/05
Portland cement manufacturing	LLL	6/14/99	6/10/02
Primary aluminum production	LL	10/7/97	10/7/99
Primary copper smelting	QQQ	6/12/02	6/12/05
Primary lead smelting	TTT	6/4/99	5/4/01
Primary magnesium refining	TTTTT	10/10/03	10/11/04
Printing/publishing	KK	5/30/96	5/30/99
Publicly owned treatment works	VVV	10/26/99	10/26/02
Pulp and paper production (non-combust) MACT I	S	4/15/98	4/15/01
Pulp and paper production (combust) (Kraft, soda, sulfite) MACT II	MM	1/12/01	1/12/04

Table B (continued)

Categories of Major Sources	Subpart	Rule Promulgation Date	Compliance Date for Existing Sources (if applicable)
Pulp and paper production (non-chemical) MACT III	S	3/8/96	4/16/01
Quaternary ammonium compounds production (MON)	FFFF	11/10/03	11/10/06
Rayon production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Reciprocating Internal Combustion Engines	ZZZZ	6/15/04	6/15/07
Refractory Products Manufacturing	SSSSS	4/16/03	4/17/06
Reinforced plastic composites production	WWWW	4/21/03	4/21/06
Rubber chemicals manufacturing (MON)	FFFF	11/10/03	11/10/06
2,4- salts and esters production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Secondary aluminum prod.	RRR	3/23/00	3/24/03
Secondary lead smelting	X	6/23/95	6/23/97
Semiconductor manufacturing	BBBBB	5/22/03	5/22/06
Shipbuilding and ship repair (surface coating)	II	12/15/95	12/16/96
Site remediation	GGGGG	10/8/03	10/9/06
Sodium pentachlorophenate production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Spandex production (Generic MACT)	YY	7/12/02	7/12/05
Stationary combustion turbines	YYYY	3/5/04	3/5/07
Steel pickling	CCC	6/22/99	6/22/01
Styrene-acrylonitrile production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Styrene-butadiene rubber and latex prod. (Polymers and Resins I)	U	9/5/96	3/5/97
Symmetrical tetrachloropyridine production (MON)	FFFF	11/10/03	11/10/06
Taconite iron ore processing	RRRRR	10/30/03	10/30/06
Tetrahydrobenzaldehyde manufacture	F	5/12/98	5/12/01
Tire manufacturing	XXXX	7/9/02	7/11/05
Tordon ™ acid production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Utility NESHAP	UUUUU	2/16/12	4/16/15
Vegetable oil production – solvent extraction	GGGG	4/12/01	4/12/04
Wood building products (surface coating)	QQQQ	5/28/03	5/28/06
Wood furniture	JJ	12/7/95	11/21/97
Wool fiberglass manufacturing	NNN	6/14/99	6/14/02

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Standards of Performance for New Stationary Sources (NSPS, New Source Performance Standards, 40 CFR pt. 60)

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

2) Facility Name: Washington County North Environmental Center Yard Waste Site

3) NSPS are federal rules that define limits, testing and monitoring for certain specific emission units. These standards are proposed and promulgated in the Federal Register and published in the Code of Federal Regulations, title 40 part 60 (40 CFR pt. 60). Table D lists the standards promulgated through December 2012. Table D may not be complete if a new NSPS has been promulgated since this form was last revised. The table contains:

- a brief emission source description;
- a corresponding 40 CFR pt. 60 subpart reference;
- an effective date for all performance standards promulgated as of December 2012; and
- NSPS allowed by capped emissions permit in boldface type.

[Please note: The best way to keep up-to-date on NSPS regulations is through the U.S. Environmental Protection Agency's (EPA) webpage (https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60?toc=1) or the Federal Register since there can be a significant time lag between the date when a standard is proposed or promulgated and when it is finally published in the Code of Federal Regulations.]

4) Please read through the emission sources in Table D. If you have modified (as defined in 40 CFR § 60.14), reconstructed (as defined in 40 CFR § 60.15) or constructed the described emission source on or after the effective date listed in the table, your facility may be subject to the requirements of 40 CFR pt. 60. Generally, reconstruction means that the cost of a repair exceeds 50% of what it would cost to install a new emission unit. If you have had an extensive and expensive repair, it may count as a reconstruction.

If you know or suspect standards may apply to your facility you must refer to the corresponding 40 CFR pt. 60, subpart and read the requirements in detail to make a final determination. Note: the general provisions found in 40 CFR pt. 60, subp. A, apply to **all** facilities subject to any other NSPS requirements.

5) After you review the list of sources subject to NSPS and read any applicable 40 CFR pt. 60 subparts, check one of the following boxes:

☒ No, my facility is not subject to a NSPS. Return to Form CAP-GI-09, and answer "No" to question 2b.

☐ Yes, my facility is subject to a NSPS. (Note that your facility can only be subject to a NSPS listed in boldface to be eligible for the capped permit.)

6) The following page lists information needed to identify your facility's emission sources subject to NSPS. Complete the group of questions for all emission equipment subject to NSPS, attaching additional pages if necessary.

7) For each applicable subpart (including Subpart A), include a copy of the applicable subpart with the applicable parts highlighted. For some standards, the Minnesota Pollution Control Agency (MPCA) has prepared a checklist version of the standard – for those subparts you may complete the checklist/form rather than highlighting a copy of the standard. See Air permit compliance forms | Minnesota Pollution Control Agency (state.mn.us) for the subparts for which a checklist form has been prepared.

8) Return to Form CAP-GI-09D, and answer "Yes" to question 2b.

Describe Emission Equipment: _____

Emission Unit Number (EQUI xxx): _____

Stack/Vent Number (STRU xxx): _____

Date of Equipment Manufacture: _____ (mm/dd/yyyy)

Date of Equipment Installation: _____ (mm/dd/yyyy)

Date of Reconstruction (if applicable): _____ (mm/dd/yyyy)

Date of Modification (if applicable): _____ (mm/dd/yyyy)

Applicable 40 CFR pt. 60 subpart or Federal Register Reference: _____

This source is also subject to the general provisions of 40 CFR pt. 60, subp. A.

Has this Unit Been Permitted Previously?

☐ No

☐ Yes, list Air Emission Permit Number: _____

Have you attached a photocopied, highlighted version of the 40 CFR pt. 60 subpart?

☐ Yes

☐ No

Describe Emission Equipment: _____

Emission Unit Number: _____

Stack/Vent Number: _____

Date of Equipment Manufacture: _____ (mm/dd/yyyy)

Date of Equipment Installation: _____ (mm/dd/yyyy)

Date of Reconstruction (if applicable): _____ (mm/dd/yyyy)

Date of Modification (if applicable): _____ (mm/dd/yyyy)

Applicable 40 CFR pt. 60 subpart or Federal Register Reference: _____

This source is also subject to the general provisions of 40 CFR pt. 60, subp. A.

Has this Unit Been Permitted Previously?

☐ No

☐ Yes, list Air Emission Permit Number: _____

Have you attached a photocopied, highlighted version of the 40 CFR pt. 60 subpart?

☐ Yes

☐ No

Describe Emission Equipment: _____

Emission Unit Number: _____

Stack/Vent Number: _____

Date of Equipment Manufacture: _____ (mm/dd/yyyy)

Date of Equipment Installation: _____ (mm/dd/yyyy)

Date of Reconstruction (if applicable): _____ (mm/dd/yyyy)

Date of Modification (if applicable): _____ (mm/dd/yyyy)

Applicable 40 CFR pt. 60 subpart or Federal Register Reference _____

This source is also subject to the general provisions of 40 CFR pt. 60, subp. A.

Has this Unit Been Permitted Previously?

☐ No

☐ Yes, list Air Emission Permit Number: _____

Have you attached a photocopied, highlighted version of the 40 CFR pt. 60 subpart?

☐ Yes

☐ No

Table D: Standards of Performance for New Stationary Sources

If a facility is subject to an NSPS listed in **boldface**, it is still eligible for a capped permit. **
(If a facility is subject to an NSPS other than those listed in boldface, it is not eligible for a capped permit.)

Performance standards promulgated as of September, 2022

Source categories subject to federal performance standards	40 CFR 60 Subpart	Effective date constructed, modified or reconstructed
Fossil-Fuel Fired Steam Generators >250 MMBtu	D	After: 08/17/1971
Electric Utility Steam Generators >250 MMBtu	Da	After: 09/18/1978
Industrial-Commercial-Institutional Steam Generators >100 MMBtu	Db	After: 06/19/1984
Small Industrial-Commercial-Institutional Steam Generators >10 MMBtu but <100 MMBtu*	**Dc**	**After: 06/09/1989**
Coal-Fired Electric Steam Generating Units (Hg Budget units)	HHHH	Varies (applies to any unit serving a generator ≥ 25 MWe on or after 11/15/1990)
Solid Waste Incinerators	E, CCCC, DDDD, EEEE, FFFF	Varies
Sewage Sludge Incinerators	LLLL, MMMM	After: 10/14/2010
Hospital/Medical/Infectious Waste Incinerators	Ec, Ce	Initial Construction
Municipal Waste Combustors	Cb, Ea, Eb, AAAA, BBBB	Varies
Portland Cement Plants	F	After: 08/17/1971
Nitric Acid Plants	G, Ga	After: 08/17/1971
Sulfuric Acid Plants	H, Cd	Initial Construction
Asphalt Concrete Plants	**I**	**After: 06/11/1973**
Petroleum Refineries	J, Ja	After: 06/11/1973
Storage Vessels for Petroleum Liquids	**K,Ka**	**After: 06/11/1973**
Volatile Organic Liquid Storage Vessels (Including Petroleum Liquids)*	**Kb**	**After: 07/23/1984**
Secondary Lead Smelters	L	After: 06/11/1973
Secondary Brass and Bronze Production Plants	M	After: 06/11/1973
Oxygen Process Furnaces	N	After: 06/11/1973
Oxygen Process Steelmaking Facilities	Na	After: 01/20/1983
Sewage Treatment Plants	O	After: 06/11/1973
Primary Copper Smelters	P	After: 10/16/1974
Primary Zinc Smelters	Q	After: 10/16/1974
Primary Lead Smelters	R	After: 10/16/1974
Primary Aluminum Reduction Plants	S	After: 10/23/1974
Phosphate Fertilizer Industry	T,U,V,W,X	After: 10/22/1974
Coal Preparation Plants	Y	After: 10/24/1974
Ferroalloy Production Facilities	Z	After: 10/24/1974
Steel Plants	AA, AAa	After: 10/21/1974
Kraft Pulp Mills	BB	After: 09/24/1976
Glass Manufacturing Plants	CC	After: 06/15/1979
Grain Elevators	**DD**	**After: 08/03/1978**
Surface Coating of Metal Furniture	**EE**	**After: 11/28/1980**
Stationary Gas Turbines	**GG**	**After: 10/03/1977**
Stationary Gas Turbines 10 MMBtu or larger	KKKK	After: 02/18/2005
Lime Manufacturing Plants	HH	After: 05/03/1977
Lead-Acid Battery Manufacturing Plants	KK	After: 01/14/1980
Metallic Mineral Processing Plants	LL	After: 08/24/1982
Automobile and Light-Duty Truck Surface Coating Operations	MM	After: 10/05/1979

Performance standards promulgated as of September, 2022

Source categories subject to federal performance standards	40 CFR 60 Subpart	Effective date constructed, modified or reconstructed
Phosphate Rock Plants	NN	After: 09/21/1979
Ammonium Sulfate Manufacture	PP	After: 02/04/1980
Graphic Arts Industry: Publication Rotogravure Printing	QQ	After: 08/28/1980
Pressure Sensitive Tape and Label Surface Coating Operations	RR	After: 12/30/1980
Industrial Surface Coating: Large Appliances	**SS**	**After: 12/24/1980**
Metal Coil Surface Coating	TT	After: 01/05/1981
Asphalt Processing and Asphalt Roofing Manufacture	UU	After: 11/18/1980
Equipment Leaks of Volatile Organic Compounds (VOCs) in the Synthetic Organic Chemicals Manufacturing Industry	VV, VVa	After: 01/05/1981
Beverage Can Surface Coating Industry	WW	After: 11/26/1980
Bulk Gasoline Terminals	**XX**	**After: 12/17/1980**
New Residential Wood Heaters *	AAA	After: 07/01/1988
Rubber Tire Manufacturing Industry	BBB	After: 01/20/1983
VOC Emissions from the Polymer Manufacturing Industry	DDD	After: 09/30/1987
Flexible Vinyl and Urethane Coating and Printing	FFF	After: 01/18/1983
Equipment Leaks of VOC in Petroleum Refineries	GGG, GGGa	After: 01/04/1983
Synthetic Fiber Production Facilities	HHH	After: 11/23/1982
VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry Air Oxidation Unit Processes	III	After: 10/21/1983
Petroleum Dry Cleaners*	**JJJ**	**After: 12/14/1982**
Onshore Natural Gas Processing: VOC Equipment Leaks and SO_2 Emissions	KKK, LLL	After: 01/20/1984
VOC Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Operations	NNN	After: 12/30/1983
Nonmetallic Mineral Processing Plants (Including Sand and Gravel Processing)	OOO*	After: 08/31/1983
Wool Fiberglass Insulation Manufacturing Plants	PPP	After: 02/07/1984
VOC Emissions from Petroleum Refinery Wastewater Systems	QQQ	After: 05/04/1987
VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI)Reactor Processes	RRR	After: 06/29/1990
Magnetic Tape Coating Facilities	SSS	After: 01/22/1986
Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	**TTT**	**After: 01/08/1986**
Calciners and Dryers in Mineral Industries	UUU	After: 04/23/1986
Polymeric Coating of Supporting Substrates Facilities	VVV	After: 04/30/1987
Municipal Solid Waste Landfills	WWW, Cc, Cf	Initial Construction
Stationary Compression Ignition Internal Combustion Engines*	**IIII**	**After: 07/11/2005**
Stationary Spark Ignition Internal Combustion Engines*	**JJJJ**	**After: 06/12/2006**
Crude Oil and Natural Gas Production, Transmission, and Distribution	OOOO	After: 08/23/2011
New Residential Hydronic Heaters and Forced-Air Furnaces	QQQQ	After: 5/15/2015
Greenhouse Gas Emissions from Electric Generating Units	TTTT, UUUUa	After: 6/18/2014

* According to Minn. R. 7007.0300, subp. 1(B), "notwithstanding parts 7007.0200 and 7007.0250, any stationary source that would be covered by a permit solely because it is subject to one or more of the following new source performance standards " are not required to obtain a permit under parts 7007.0100 to 7007.1850.

** Minn. R. 7007.114 0, subp. 2 (E) lists the 13 NSPS that a facility can be subject to and still be eligible for a capped permit.

Minnesota Pollution Control Agency

AIR QUALITY
520 LAFAYETTE ROAD NO., ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CAP-GI-09F**

REQUIREMENTS: STRATOSPHERIC OZONE PROTECTION (40 CFR pt. 82)

10/7/04

Stratospheric Ozone Protection
(1990 Clean Air Act, as amended, Sections 601-618; 40 CFR pt. 82)

The 1990 Clean Air Act Amendments, Sections 601-618 and federal regulations located in 40 CFR pt. 82 regulate ozone depleting substances and requires a phase out of their use. Review the attached list of ozone depleting chemicals, Tables E and F. If you manufacture, sell, distribute or use any the chemicals in Tables E and F, then Sections 601-618 and 40 CFR pt. 82 apply to your facility. Please read Sections 601-618 and 40 CFR pt. 82 to determine all the requirements that apply to your facility.

1) After reviewing Table F check one of the following:

☒ NO, my facility **does not** manufacture, sell, distribute or use any chemicals from the list, and the 1990 Clean Air Act, as amended, Sections 601-618 do not apply to my facility. Return to Form **CAP-GI-09 Requirements**, question 3b.

☐ YES, my facility **does** manufacture, sell, distribute or use one or more of the chemicals from the list. Go to question 2.

2) Indicate below which chemicals you manufacture, sell, distribute or use; whether the chemical is Class I or Class II; and what chemical your facility will be using to replace the phased out chemical. Include additional pages if necessary:

2a) Chemical Name:	**2b)** Class Type:	**2c)** CAS Number:	**2d)** Replacement Chemical (after phase out):

3) Return to form **CAP-GI-09 Requirements**, question 3b.

TABLE E
CLASS I OZONE DEPLETING CHEMICALS

Group I:	Chemical	CAS Number
	$CFCl_3$-Trichlorofluoromethane (CFC-11)	75-69-4
	CF_2Cl_2-Dichlorodifluoromethane (CFC-12)	75-71-8
	$C_2F_3Cl_2$-Trichlorotrifluoroethane (CFC-113)	76-13-1
	$C_2F_4Cl_3$-Dichlorotetrafluoroethane (CFC-114)	76-14-2
	C_2F_5Cl-Monochloropentafluoroethane (CFC-115)	76-15-3
	All isomers of the above chemicals	

Group II:	Chemical	CAS Number
	CF_2ClBr-Bromochlorodifluoromethane (Halon-1211)	421-01-2
	CF_3Br-Bromotrifluoroethane (Halon-1301)	75-63-8
	$C_2F_4Br_2$-Dibromotetrafluoroethane (Halon-2402)	124-73-2
	All isomers of the above chemicals	

Group III:	Chemical	CAS Number
	CF_3Cl-Chlorotrifluoromethane (CFC-13)	75-72-9
	C_2FCl_5 (CFC-111)	954-56-3
	$C_2F_2Cl_4$ (CFC-112)	76-12-0
	C_3FCl_7 (CFC-211)	422-78-6
	$C_3F_2Cl_6$ (CFC-212)	3182-26-1
	$C_3F_3Cl_5$ (CFC-213)	2354-06-5
	$C_3F_4Cl_4$ (CFC-214)	29255-31-0
	$C_3F_5Cl_3$ (CFC-215)	4259-43-2
	$C_3F_6Cl_2$ (CFC-216)	661-97-2
	C_3F_7Cl (CFC-217)	422-86-6
	All isomers of the above chemicals	

Group IV:	Chemical	CAS Number
	CCl-Carbon Tetrachloride	56-23-5

Group V:	Chemical	CAS Number
	$C_2H_3Cl_3$-1,1,1 Trichloroethane (Methyl chloroform)	71-55-6
	All isomers of the above chemical except 1,1,2-trichloroethane	79-00-5

Group VI:	Chemical	CAS Number
	CH_3BR - Bromomethane (Methyl Bromide)	

Group VII:	Chemical	CAS Number
	$CHFBR_2$	
	CHF_2Br (HBFC-22B1)	
	CH_2FBr	
	C_2HFBr_4	
	$C_2HF_2Br_3$	
	$C_2HF_3Br_2$	
	C_2HF_4Br	
	$C_2H_2FBr_3$	
	$C_2H_2F_2Br_2$	
	$C_2H_2F_3Br$	
	$C_2H_2FBr_2$	
	$C_2H_3F_2Br$	
	C_2H_4FBr	
	C_3HFBr_6	
	$C_3HF_2Br_5$	

TABLE E (continued)

Group VII:	Chemical	CAS Number
	$C_3HF_3Br_4$	
	$C_3HF_4Br_3$	
	$C_3HF_5Br_2$	
	C_3HF_6Br	
	$C_3H_2FBR_5$	
	$C_3H_2F_2BR_4$	
	$C_3H_2F_3Br_3$	
	$C_3H_2F_4Br_2$	
	$C_3H_2F_5BR$	
	$C_3H_3FBR_4$	
	$C_3H_3F_2Br_3$	
	$C_3H_3F_3Br_2$	
	$C_3H_3F_4Br$	
	$C_3H_4FBr_3$	
	$C_3H_4F_2Br_2$	
	$C_3H_4F_3Br$	
	$C_3H_5FBr_2$	
	$C_3H_5F_2Br$	
	C_3H_6FB	

TABLE F
CLASS II OZONE DEPLETING CHEMICALS

	Chemical	CAS Number
HCFC-21	$CHFCl_2$ -dichlorofluoromethane	75-43-4
HCFC-22	CHF_2Cl -chlorodifluoromethane	75-45-6
HCFC-31	CH_2FCl -chlorofluoromethane	593-70-4
HCFC-121	C_2HFCl_4 -tetrachlorofluoroethane	130879-71-9
HCFC-121	C_2HFCl_4 -tetrachlorofluoroethane	134237-32-4
HCFC-121	C_2HFCl_4 -1,1,1,2-tetrachloro-2-fluoroethane	354-11-0
HCFC-121	C_2HFCl_4 -1,1,2,2-tetrachloro-1-fluoroethane	354-14-3
HCFC-122	$C_2HF_2Cl_3$ -trichlorodifluoroethane	41834-16-6
HCFC-122	$C_2HF_2Cl_3$ -trichloro-1,1-difluoroethane	55949-46-7
HCFC-122	$C_2HF_2Cl_3$ -1,2,2-trichloro-1,1-difluoroethane	354-21-2
HCFC-122	$C_2HF_2Cl_3$ -1,2,2-trichloro-1,2-difluoroethane	354-15-4
HCFC-122	$C_2HF_2Cl_3$ -1,1,1-trichloro-2,2-difluoroethane	354-12-1
HCFC-122	$C_2HF_2Cl_3$ -1,1,2-trichloro-2,2-difluoroethane	NA
HCFC-123	$C_2HF_3Cl_2$ -dichlorotrifluoroethane	34077-87-7
HCFC-123	$C_2HF_3Cl_2$ -dichlorotrifluoroethane	134237-33-5
HCFC-123	$C_2HF_3Cl_2$ -dichloro-1,1,2-trifluoroethane	90454-18-5
HCFC-123	$C_2HF_3Cl_2$ -2,2-dichloro-1,1,1-trifluoroethane	306-83-2
HCFC-123a	$C_2HF_3Cl_2$ -1,2-dichloro-1,1,2-trifluoroethane	354-23-4
HCFC-123b	$C_2HF_3Cl_2$ -1,1-dichloro-1,2,2-trifluoroethane	812-04-4
HCFC-123	$C_2HF_3Cl_2$ -2,2-dichloro-1,1,2-trifluoroethane	NA
HCFC-124	C_2HF_4Cl -chlorotetrafluoroethane	63938-10-3
HCFC-124	C_2HF_4Cl -2-chloro-1,1,1,2-tetrafluoroethane	2837-89-0
HCFC-124	C_2HF_4Cl -1-chloro-1,1,2,2-tetrafluoroethane	354-25-6
HCFC-131	$C_2H_2FCl_3$ -trichlorofluoroethane	27154-33-2
HCFC-131	$C_2H_2FCl_3$ -trichlorofluoroethane	134237-34-6
HCFC-131	$C_2H_2FCl_3$ -1,1,2-trichloro-1 (or 2)-fluoroethane	90134-98-8
HCFC-131b	$C_2H_2FCl_3$ -1,1,1-trichloro-2-fluoroethane	2366-36-1
HCFC-131a	$C_2H_2FCl_3$ -1,1,2-trichloro-1-fluoroethane	811-95-0
HCFC-131	$C_2H_2FCl_3$ -1,1,2-trichloro-2-fluoroethane	359-28-4
HCFC-132	$C_2H_2F_2Cl_2$ -dichlorodifluoroethane	25915-78-0
HCFC-132	$C_2H_2F_2Cl_2$ -dichloro-1,1-difluoroethane	55494-45-6
HCFC-132	$C_2H_2F_2Cl_2$ -1,1-dichlorodifluoroethane	31153-51-2
HCFC-132	$C_2H_2F_2Cl_2$ -1,2-dichloro-1,2-difluoroethane	33579-37-2
HCFC-132	$C_2H_2F_2Cl_2$ -1,2-dichloro-1,2-difluoroethane	33489-30-4
HCFC-132c	$C_2H_2F_2Cl_2$ -1,1-dichloro-1,2-difluoroethane	1842-05-3
HCFC-132b	$C_2H_2F_2Cl_2$ -1,2-dichloro-1,1-difluoroethane	1649-08-7
HCFC-132a	$C_2H_2F_2Cl_2$ -1,1-dichloro-2,2-difluoroethane	471-43-2
HCFC-132	$C_2H_2F_2Cl_2$ -1,2-dichloro-1,2-difluoroethane	431-06-1
HCFC-133	$C_2H_2F_3Cl$ -chlorotrifluoroethane	13330-45-6
HCFC-133	$C_2H_2F_3Cl$ -1-chloro-1,2,2-trifluoroethane	431-07-2
HCFC-133b	$C_2H_2F_3Cl$ -1-chloro-1,1,2-trifluoroethane	421-04-5
HCFC-133a	$C_2H_2F_3Cl$ -2-chloro-1,1,1-trifluoroethane	75-88-7
HCFC-141	$C_2H_3FCl_2$ -dichlorofluoroethane	25167-88-8
HCFC-141b	$C_2H_3FCl_2$ -1,1-dichloro-1-fluoroethane	1717-00-6
HCFC-141	$C_2H_3FCl_2$ -1,2-dichloro-1-fluoroethane	430-57-9
HCFC-141a	$C_2H_3FCl_2$ -1,1-dichloro-2-fluoroethane	430-53-5
HCFC-142	$C_2H_3F_2Cl$ -chlorodifluoroethane	25497-29-4
HCFC-142	$C_2H_3F_2Cl$ -chloro-1,1-difluoroethane	55949-44-5
HCFC-142a	$C_2H_3F_2Cl$ -2-chloro-1,1-difluoroethane	338-65-8
HCFC-142b	$C_2H_3F_2Cl$ -1-chloro-1,2-difluoroethane	338-64-7
HCFC-142	$C_2H_3F_2Cl$ -1-chloro-1,1-difluoroethane	75-68-3
HCFC-221	C_3HFCl_6 -hexachlorofluoropropane	29470-94-8

TABLE F (continued)

	Chemical	CAS Number
HCFC-221	C_3HFCl_6 -hexachlorofluoropropane	134237-35-7
HCFC-221	C_3HFCl_6 -1,1,1,2,3,3-hexachloro-3-fluoropropane	431-79-8
HCFC-221	C_3HFCl_6 -1,1,1,2,3,3-hexachloro-2-fluoropropane	422-40-2
HCFC-221	C_3HFCl_6 -1,1,1,2,2,3-hexachloro-1-fluoropropane	422-26-4
HCFC-221	C_3HFCl_6 -1,1,2,2,3,3-hexachloro-1-fluoropropane	422-28-6
HCFC-221	C_3HFCl_6 -1,1,1,3,3,3-hexachloro-2-fluoropropane	NA
HCFC-222	$C_3HF_2Cl_5$ -pentachlorodifluoropropane	116867-32-4
HCFC-222	$C_3HF_2Cl_5$ -pentachlorodifluoropropane	134237-36-8
HCFC-222	$C_3HF_2Cl_5$ -1,1,2,3,3-pentachloro-1,3-difluoropropane	421-82-3
HCFC-222	$C_3HF_2Cl_5$ -1,1,1,2,3-pentachloro-3,3-difluoropropane	431-80-1
HCFC-222c	$C_3HF_2Cl_5$ -1,1,1,3,3-pentachloro-2,2-difluoropropane	422-49-1
HCFC-222	$C_3HF_2Cl_5$ -1,2,2,3,3-pentachloro-1,1-difluoropropane	422-30-0
HCFC-222	$C_3HF_2Cl_5$ -1,1,1,2,2-pentachloro-3,3-difluoropropane	422-27-5
HCFC-222	$C_3HF_2Cl_5$ -1,1,1,2,3-pentachloro-2,3-difluoropropane	NA
HCFC-222	$C_3HF_2Cl_5$ -1,1,1,3,3-pentachloro-2,3-difluoropropane	NA
HCFC-222	$C_3HF_2Cl_5$ -1,1,2,2,3-pentachloro-1,3-difluoropropane	NA
HCFC-222	$C_3HF_2Cl_5$ -1,1,2,3,3-pentachloro-1,2-difluoropropane	NA
HCFC-223	$C_3HF_3Cl_4$ -tetrachlorotrifluoropropane	29470-95-9
HCFC-223	$C_3HF_3Cl_4$ -tetrachlorotrifluoropropane	134237-37-9
HCFC-223	$C_3HF_3Cl_4$ -1,1,1,3-tetrachloro-2,3,3-trifluoropropane	54002-59-4
HCFC-223	$C_3HF_3Cl_4$ -1,1,2,3-tetrachloro-1,3,3-trifluoropropane	431-83-4
HCFC-223	$C_3HF_3Cl_4$ -1,1,1,2-tetrachloro-3,3,3-trifluoropropane	431-81-2
HCFC-223ca	$C_3HF_3Cl_4$ -1,1,3,3-tetrachloro-1,2,2-trifluoropropane	422-52-6
HCFC-223cb	$C_3HF_3Cl_4$ -1,1,1,3-tetrachloro-2,2,3-trifluoropropane	422-50-4
HCFC-223	$C_3HF_3Cl_4$ -1,2,3,3-tetrachloro-1,1,2-trifluoropropane	422-41-3
HCFC-223	$C_3HF_3Cl_4$ -2,2,3,3-tetrachloro-1,1,1-trifluoropropane	422-35-5
HCFC-223	$C_3HF_3Cl_4$ -1,1,2,2-tetrachloro-1,3,3-trifluoropropane	422-29-7
HCFC-223	$C_3HF_3Cl_4$ -1,1,1,2-tetrachloro-2,3,3-trifluoropropane	NA
HCFC-223	$C_3HF_3Cl_4$ -1,1,3,3-tetrachloro-1,2,3-trifluoropropane	NA
HCFC-223	$C_3HF_3Cl_4$ -1,2,2,3-tetrachloro-1,1,3-trifluoropropane	NA
HCFC-223	$C_3HF_3Cl_4$ -1,1,2,3-tetrachloro-1,2,3-trifluoropropane	NA
HCFC-224	$C_3HF_4Cl_3$ -trichlorotetrafluoropropane	127564-91-4
HCFC-224	$C_3HF_4Cl_3$ -trichlorotetrafluoropropane	134237-38-0
HCFC-224	$C_3HF_4Cl_3$ -1,1,3-trichloro-1,2,3,3-tetrafluoropropane	53063-53-9
HCFC-224	$C_3HF_4Cl_3$ -1,1,1-trichloro-2,3,3,3-tetrafluoropropane	53063-52-8
HCFC-224	$C_3HF_4Cl_3$ -1,2,3-trichloro-1,1,3,3-tetrafluoropropane	431-85-6
HCFC-224	$C_3HF_4Cl_3$ -1,1,2-trichloro-1,3,3,3-tetrafluoropropane	431-84-5
HCFC-224ca	$C_3HF_4Cl_3$ -1,3,3-trichloro-1,1,2,2-tetrafluoropropane	422-54-8
HCFC-224cb	$C_3HF_4Cl_3$ -1,1,3-trichloro-1,2,2,3-tetrafluoropropane	422-53-7
HCFC-224cc	$C_3HF_4Cl_3$ -1,1,1-trichloro-2,2,3,3-tetrafluoropropane	422-51-5
HCFC-224	$C_3HF_4Cl_3$ -2,3,3-trichloro-1,1,1,2-tetrafluoropropane	422-47-9
HCFC-224	$C_3HF_4Cl_3$ -1,2,3-trichloro-1,1,2,3-tetrafluoropropane	422-42-4
HCFC-224	$C_3HF_4Cl_3$ -1,2,2-trichloro-1,1,3,3-tetrafluoropropane	422-32-2
HCFC-224	$C_3HF_4Cl_3$ -2,2,3-trichloro-1,1,1,3-tetrafluoropropane	NA
HCFC-224	$C_3HF_4Cl_3$ -1,1,2-trichloro-1,2,3,3-tetrafluoropropane	NA
HCFC-225	$C_3HF_5Cl_2$ -dichloropentafluoropropane	127564-92-5
HCFC-225	$C_3HF_5Cl_2$ -1,3-dichloro-1,1,2,3,3-pentafluoropropane	136013-79-1
HCFC-225aa	$C_3HF_5Cl_2$ -2,2-dichloro-1,1,1,3,3-pentafluoropropane	128903-21-9
HCFC-225	$C_3HF_5Cl_2$ -1,1-dichloro-1,2,3,3,3-pentafluoropropane	111512-56-2
HCFC-225	$C_3HF_5Cl_2$ -2,3-dichloro-1,1,1,2,3-pentafluoropropane	111512-55-1
HCFC-225	$C_3HF_5Cl_2$ -2,3-dichloro-1,1,1,2,3-pentafluoropropane	111512-51-7
HCFC-225cc	$C_3HF_5Cl_2$ -1,1-dichloro-1,2,2,3,3-pentafluoropropane	13474-88-9
HCFC-225cb	$C_3HF_5Cl_2$ -1,3-dichloro-1,1,2,2,3-pentafluoropropane	507-55-1

TABLE F (continued)

	Chemical	CAS Number
HCFC-225da	$C_3HF_5Cl_2$ -1,2-dichloro-1,1,3,3,3-pentafluoropropane	431-86-7
HCFC-225ca	$C_3HF_5Cl_2$ -3,3-dichloro-1,1,1,2,2-pentafluoropropane	422-56-0
HCFC-225ba	$C_3HF_5Cl_2$ -2,3-dichloro-1,1,1,2,3-pentafluoropropane	422-48-0
HCFC-225	$C_3HF_5Cl_2$ -1,2-dichloro-1,1,2,3,3-pentafluoropropane	422-44-6
HCFC-226	C_3HF_6Cl -chlorohexafluoropropane	28987-04-4
HCFC-226	C_3HF_6Cl -chlorohexafluoropropane	134308-72-8
HCFC-226ba	C_3HF_6Cl -2-chloro-1,1,1,2,3,3-hexafluoropropane	51346-64-6
HCFC-226da	C_3HF_6Cl -2-chloro-1,1,1,3,3,3-hexafluoropropane	431-87-8
HCFC-226ca	C_3HF_6Cl -3-chloro-1,1,1,2,2,3-hexafluoropropane	422-57-1
HCFC-226cb	C_3HF_6Cl -1-chloro-1,1,2,2,3,3-hexafluoropropane	422-55-9
HCFC-226ea	C_3HF_6Cl -1-chloro-1,1,2,3,3,3-hexafluoropropane	359-58-0
HCFC-231	$C_3H_2FCl_5$ -pentachlorofluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -pentachlorofluoropropane	134190-48-0
HCFC-231	$C_3H_2FCl_5$ -1,1,1,2,3-pentachloro-2-fluoropropane	421-94-3
HCFC-231	$C_3H_2FCl_5$ -1,1,2,3,3-pentachloro-2-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,1,3,3-pentachloro-3-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,2,2,3-pentachloro-1-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,1,2,2-pentachloro-3-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,1,2,3-pentachloro-3-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,1,3,3-pentachloro-2-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,2,2,3-pentachloro-3-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,2,3,3-pentachloro-1-fluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -tetrachlorodifluoropropane	127564-82-3
HCFC-232	$C_3H_2F_2Cl_4$ -tetrachlorodifluoropropane	134237-39-1
HCFC-232	$C_3H_2F_2Cl_4$ -1,2,3,3-tetrachloro-1,1-difluoropropane	67879-59-8
HCFC-232ca	$C_3H_2F_2Cl_4$ -1,1,3,3-tetrachloro-2,2-difluoropropane	1112-14-7
HCFC-232cb	$C_3H_2F_2Cl_4$ -1,1,1,3-tetrachloro-2,2-difluoropropane	677-54-3
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,1,3-tetrachloro-3,3-difluoropropane	460-89-9
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,1,3-tetrachloro-2,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,1,2-tetrachloro-2,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,1,2-tetrachloro-3,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,3,3-tetrachloro-1,2-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,2,3-tetrachloro-1,2-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,2,3-tetrachloro-1,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,2,3,3-tetrachloro-1,2-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,2,2,3-tetrachloro-1,1-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,2,2,3-tetrachloro-1,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,3,3-tetrachloro-1,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,2,2-tetrachloro-3,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,2,2-tetrachloro-1,3-difluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -trichlorotrifluoropropane	61623-04-9
HCFC-233	$C_3H_2F_3Cl_3$ -trichlorotrifluoropropane	134237-40-4
HCFC-233ca	$C_3H_2F_3Cl_3$ -1,1,3-trichloro-2,2,3-trifluoropropane	131221-36-8
HCFC-233cc	$C_3H_2F_3Cl_3$ -1,1,1-trichloro-2,2,3-trifluoropropane	131211-71-7
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,3-trichloro-1,2,3-trifluoropropane	54377-32-1
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,1-trichloro-2,3,3-trifluoropropane	54306-56-8
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,2-trichloro-2,3,3-trifluoropropane	13058-99-6
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,1-trichloro-3,3,3-trifluoropropane	7125-84-0
HCFC-233	$C_3H_2F_3Cl_3$ -2,2,3-trichloro-1,1,1-trifluoropropane	7125-83-9
HCFC-233	$C_3H_2F_3Cl_3$ -2,3,3-trichloro-1,1,1-trifluoropropane	431-51-6
HCFC-233cb	$C_3H_2F_3Cl_3$ -1,1,3-trichloro-1,2,2-trifluoropropane	421-99-8
HCFC-233	$C_3H_2F_3Cl_3$ -1,2,3-trichloro-1,1,2-trifluoropropane	421-95-4
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,3-trichloro-1,3,3-trifluoropropane	333-26-6

TABLE F (continued)

	Chemical	CAS Number
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,2-trichloro-1,2,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,2,3-trichloro-1,2,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,2-trichloro-1,3,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,3,3-trichloro-1,1,2-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -2,2,3-trichloro-1,1,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,2,3-trichloro-1,1,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,2,2-trichloro-1,1,3-trifluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -dichlorotetrafluoropropane	127564-83-4
HCFC-234fa	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,3,3-tetrafluoropropane	76140-39-1
HCFC-234ca	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,2,2,3-tetrafluoropropane	70341-81-0
HCFC-234cd	$C_3H_2F_4Cl_2$ -1,1-dichloro-1,2,2,3-tetrafluoropropane	70192-63-1
HCFC-234	$C_3H_2F_4Cl_2$ -1,1-dichloro-1,3,3,3-tetrafluoropropane	64712-27-2
HCFC-234	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,2,3-tetrafluoropropane	53149-65-8
HCFC-234	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,2,3-tetrafluoropropane	5306355-1
HCFC-234	$C_3H_2F_4Cl_2$ -3,3-dichloro-1,1,1,2-tetrafluoropropane	53063-54-0
HCFC-234	$C_3H_2F_4Cl_2$ -2,2-dichloro-1,1,3,3-tetrafluoropropane	17705-30-5
HCFC-234cb	$C_3H_2F_4Cl_2$ -1,1-dichloro-2,2,3,3-tetrafluoropropane	4071-01-6
HCFC-234	$C_3H_2F_4Cl_2$ -1,2-dichloro-1,2,3,3-tetrafluoropropane	425-94-5
HCFC-234cc	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,2,2-tetrafluoropropane	422-00-5
HCFC-234da	$C_3H_2F_4Cl_2$ -2,3-dichloro-1,1,1,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -1,1-dichloro-1,2,3,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -1,2-dichloro-1,1,3,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -2,3-dichloro-1,1,1,2-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -2,2-dichloro-1,1,1,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -1,2-dichloro-1,1,2,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,2,3-tetrafluoropropane	NA
HCFC-235	$C_3H_2F_5Cl$ -chloropentafluoropropane	108662-83-5
HCFC-235	$C_3H_2F_5Cl$ -chloropentafluoropropane	134237-83-5
HCFC-235	$C_3H_2F_5Cl$ -3-chloro-1,1,1,2,3-pentafluoropropane	134251-06-2
HCFC-235da	$C_3H_2F_5Cl$ -2-chloro-1,1,1,3,3-pentafluoropropane	28103-66-4
HCFC-235ca	$C_3H_2F_5Cl$ -1-chloro-1,2,2,3,3-pentafluoropropane	679-99-2
HCFC-235cc	$C_3H_2F_5Cl$ -1-chloro-1,1,2,2,3-pentafluoropropane	677-55-4
HCFC-235fa	$C_3H_2F_5Cl$ -1-chloro-1,1,3,3,3-pentafluoropropane	460-92-4
HCFC-235cb	$C_3H_2F_5Cl$ -3-chloro-1,1,1,2,2-pentafluoropropane	422-02-6
HCFC-235	$C_3H_2F_5Cl$ -2-chloro-1,1,1,2,3-pentafluoropropane	NA
HCFC-235	$C_3H_2F_5Cl$ -1-chloro-1,1,2,3,3-pentafluoropropane	NA
HCFC-235	$C_3H_2F_5Cl$ -2-chloro-1,1,2,3,3-pentafluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -tetrachlorofluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -tetrachlorofluoropropane	134190-49-1
HCFC-241	$C_3H_3FCl_4$ -1,1,1,2-tetrachloro-3-fluoropropane	84816-05-7
HCFC-241	$C_3H_3FCl_4$ -1,1,1,3-tetrachloro-3-fluoropropane	23153-22-2
HCFC-241	$C_3H_3FCl_4$ -1,1,2,3-tetrachloro-3-fluoropropane	21981-25-9
HCFC-241	$C_3H_3FCl_4$ -1,1,2,2-tetrachloro-1-fluoropropane	7126-06-9
HCFC-241	$C_3H_3FCl_4$ -1,1,2,3-tetrachloro-2-fluoropropane	3175-26-6
HCFC-241	$C_3H_3FCl_4$ -1,1,1,2-tetrachloro-2-fluoropropane	3175-25-5
HCFC-241	$C_3H_3FCl_4$ -1,1,2,3-tetrachloro-1-fluoropropane	666-27-3
HCFC-241	$C_3H_3FCl_4$ -1,1,1,3-tetrachloro-2-fluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -1,1,2,2-tetrachloro-3-fluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -1,2,2,3-tetrachloro-1-fluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -1,1,3,3-tetrachloro-1-fluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -1,1,3,3-tetrachloro-2-fluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -trichlorodifluoropropane	127564-90-3
HCFC-242	$C_3H_3F_2Cl_3$ -trichlorodifluoropropane	134237-42-6

TABLE F (continued)

	Chemical	CAS Number
HCFC-242	$C_3H_3F_2Cl_3$ -1,3,3-trichloro-1,1-difluoropropane	460-63-9
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,3-trichloro-1,2-difluoropropane	7164-14-9
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,3-trichloro-2,2-difluoropropane	1112-13-6
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,3-trichloro-1,1-difluoropropane	431-24-3
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,1-trichloro-2,2-difluoropropane	1112-05-6
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,2-trichloro-1,1-difluoropropane	7126-05-8
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,2-trichloro-1,2-difluoropropane	7126-04-7
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,1-trichloro-2,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,2-trichloro-1,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,3-trichloro-1,2-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,2-trichloro-2,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,2-trichloro-1,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -2,2,3-trichloro-1,1-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,1-trichloro-3,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,3-trichloro-1,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,2-trichloro-3,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,3-trichloro-2,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,3-trichloro-1,3-difluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -dichlorotrifluoropropane	116890-51-8
HCFC-243	$C_3H_3F_3Cl_2$ -dichlorotrifluoropropane	134237-43-7
HCFC-243	$C_3H_3F_3Cl_2$ -2,2-dichloro-1,1,1-trifluoropropane	7126-01-4
HCFC-243cc	$C_3H_3F_3Cl_2$ -1,1-dichloro-1,2,2-trifluoropropane	7125-99-7
HCFC-243	$C_3H_3F_3Cl_2$ -1,2-dichloro-1,1,2-trifluoropropane	7126-00-3
HCFC-243da	$C_3H_3F_3Cl_2$ -2,3-dichloro-1,1,1-trifluoropropane	338-75-0
HCFC-243ca	$C_3H_3F_3Cl_2$ -1,3-dichloro-1,2,2-trifluoropropane	67406-68-2
HCFC-243cb	$C_3H_3F_3Cl_2$ -1,1-dichloro-2,2,3-trifluoropropane	70192-70-0
HCFC-243	$C_3H_3F_3Cl_2$ -3,3-dichloro-1,1,1-trifluoropropane	460-69-5
HCFC-243	$C_3H_3F_3Cl_2$ -1,3-dichloro-1,1,2-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,2-dichloro-1,1,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,1-dichloro-1,2,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -2,3-dichloro-1,1,2-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -2,2-dichloro-1,1,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,2-dichloro-1,2,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,3-dichloro-1,1,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,1-dichloro-1,3,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -3,3-dichloro-1,1,2-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -2,3-dichloro-1,1,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,3-dichloro-1,2,3trifluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -chlorotetrafluoropropane	134190-50-4
HCFC-244	$C_3H_3F_4Cl$ -chlorotetrafluoropropane	117970-90-8
HCFC-244db	$C_3H_3F_4Cl$ -2-chloro-1,1,1,3-tetrafluoropropane	679-85-6
HCFC-244ca	$C_3H_3F_4Cl$ -3-chloro-1,1,2,2-tetrafluoropropane	67406-66-0
HCFC-244cb	$C_3H_3F_4Cl$ -1-chloro-1,2,2,3-tetrafluoropropane	2730-64-5
HCFC-244fb	$C_3H_3F_4Cl$ -1-chloro-1,1,3,3-tetrafluoropropane	19041-02-2
HCFC-244da	$C_3H_3F_4Cl$ -2-chloro-1,1,3,3-tetrafluoropropane	421-73-8
HCFC-244bb	$C_3H_3F_4Cl$ -2-chloro-1,1,1,2-tetrafluoropropane	421-75-0
HCFC-244cc	$C_3H_3F_4Cl$ -1-chloro-1,1,2,2-tetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -1-chloro-1,1,2,3-tetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -3-chloro-1,1,1,2-tetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -2-chloro-1,1,2,3-tetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -3-chloro-1,1,1,3-tetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -3-chloro-1,1,2,3-tetrafluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -trichlorofluoropropane	NA

TABLE F (continued)

	Chemical	CAS Number
HCFC-251	$C_3H_4FCl_3$ -trichlorofluoropropane	134190-51-5
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	84847-80-3
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	84847-79-0
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	76985-34-7
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	76985-33-6
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	67832-50-2
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	67832-44-4
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-2-fluoropropane	7126-16-1
HCFC-251	$C_3H_4FCl_3$ -1,2,2-trichloro-3-fluoropropane	70192-89-1
HCFC-251	$C_3H_4FCl_3$ -1,1,3-trichloro-1-fluoropropane	818-99-5
HCFC-251	$C_3H_4FCl_3$ -1,1,3-trichloro-2-fluoropropane	76937-36-5
HCFC-251	$C_3H_4FCl_3$ -1,1,2-trichloro-1-fluoropropane	421-41-0
HCFC-251	$C_3H_4FCl_3$ -1,1,2-trichloro-2-fluoropropane	3175-24-4
HCFC-251	$C_3H_4FCl_3$ -1,1,1-trichloro-2-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,1,1-trichloro-3-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,1,2-trichloro-3-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,1,3-trichloro-3-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,2,2-trichloro-1-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -dichlorodifluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -dichlorodifluoropropane	134190-52-6
HCFC-252cb	$C_3H_4F_2Cl_2$ -1,1-dichloro-2,2-difluoropropane	1112-01-2
HCFC-252	$C_3H_4F_2Cl_2$ -1,1-dichloro-3,3-difluoropropane	131404-17-6
HCFC-252	$C_3H_4F_2Cl_2$ -1,1-dichloro-1,3-difluoropropane	121612-64-4
HCFC-252	$C_3H_4F_2Cl_2$ -1,2-dichloro-1,1-difluoropropane	7126-15-0
HCFC-252	$C_3H_4F_2Cl_2$ -1,2-dichloro-2,3-difluoropropane	70192-74-4
HCFC-252	$C_3H_4F_2Cl_2$ -2,3-dichloro-1,1-difluoropropane	82578-00-5
HCFC-252	$C_3H_4F_2Cl_2$ -1,3-dichloro-1,1-difluoropropane	819-00-1
HCFC-252	$C_3H_4F_2Cl_2$ -1,3-dichloro-1,2-difluoropropane	111483-26-2
HCFC-252ca	$C_3H_4F_2Cl_2$ -1,3-dichloro-2,2-difluoropropane	1112-36-3
HCFC-252	$C_3H_4F_2Cl_2$ -1,1-dichloro-1,2-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -1,1-dichloro-2,3-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -1,2-dichloro-1,2-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -1,2-dichloro-1,3-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -1,3-dichloro-1,3-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -2,2-dichloro-1,1-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -2,2-dichloro-1,3-difluoropropane	NA
HCFC-253	$C_3H_4F_3Cl$ -chlorotrifluoropropane	26588-23-8
HCFC-253	$C_3H_4F_3Cl$ -chlorotrifluoropropane	134237-44-8
HCFC-253	$C_3H_4F_3Cl$ -2-chloro-1,1,1-trifluoropropane	421-47-6
HCFC-253	$C_3H_4F_3Cl$ -3-chloro-1,1,1-trifluoropropane	460-35-5
HCFC-253	$C_3H_4F_3Cl$ -1-chloro-1,1,2-trifluoropropane	134251-05-1
HCFC-253	$C_3H_4F_3Cl$ -2-chloro-1,1,2-trifluoropropane	69202-10-4
HCFC-253	$C_3H_4F_3Cl$ -3-chloro-1,1,2-trifluoropropane	121612-65-5
HCFC-253	$C_3H_4F_3Cl$ -1-chloro-1,1,3-trifluoropropane	83124-56-5
HCFC-253cb	$C_3H_4F_3Cl$ -1-chloro-1,2,2-trifluoropropane	70192-76-6
HCFC-253ca	$C_3H_4F_3Cl$ -1-chloro-2,2,3-trifluoropropane	56758-54-4
HCFC-253	$C_3H_4F_3Cl$ -2-chloro-1,1,3-trifluoropropane	NA
HCFC-253	$C_3H_4F_3Cl$ -3-chloro-1,1,3-trifluoropropane	NA
HCFC-253	$C_3H_4F_3Cl$ -1-chloro-1,2,3-trifluoropropane	NA
HCFC-253	$C_3H_4F_3Cl$ -2-chloro-1,2,3-trifluoropropane	NA
HCFC-261	$C_3H_5FCl_2$ -dichlorofluoropropane	127404-11-9
HCFC-261	$C_3H_5FCl_2$ -dichlorofluoropropane	134237-45-9

TABLE F (continued)

	Chemical	CAS Number
HCFC-261	$C_3H_5FCl_2$ -1,1-dichloro-1-fluoropropane	7799-56-6
HCFC-261	$C_3H_5FCl_2$ -1,1-dichloro-2-fluoropropane	53074-31-0
HCFC-261	$C_3H_5FCl_2$ -1,1-dichloro-3-fluoropropane	53074-30-9
HCFC-261	$C_3H_5FCl_2$ -1,2-dichloro-1-fluoropropane	7799-55-5
HCFC-261ba	$C_3H_5FCl_2$ -1,2-dichloro-2-fluoropropane	420-97-3
HCFC-261	$C_3H_5FCl_2$ -1,2-dichloro-3-fluoropropane	453-01-0
HCFC-261	$C_3H_5FCl_2$ -1,3-dichloro-1-fluoropropane	83124-60-1
HCFC-261	$C_3H_5FCl_2$ -1,3-dichloro-2-fluoropropane	816-38-6
HCFC-261	$C_3H_5FCl_2$ -2,2-dichloro-1-fluoropropane	NA
HCFC-262	$C_3H_5F_2Cl$ -chlorodifluoropropane	NA
HCFC-262	$C_3H_5F_2Cl$ -chlorodifluoropropane	134190-53-7
HCFC-262	$C_3H_5F_2Cl$ -1-chloro-1,1-difluoropropane	421-02-3
HCFC-262	$C_3H_5F_2Cl$ -2-chloro-1,1-difluoropropane	430-93-3
HCFC-262	$C_3H_5F_2Cl$ -3-chloro-1,1-difluoropropane	83124-57-6
HCFC-262	$C_3H_5F_2Cl$ -1-chloro-1,2-difluoropropane	430-96-6
HCFC-262	$C_3H_5F_2Cl$ -1-chloro-2,3-difluoropropane	37161-81-2
HCFC-262	$C_3H_5F_2Cl$ -2-chloro-1,3-difluoropropane	102738-79-4
HCFC-262ca	$C_3H_5F_2Cl$ -1-chloro-2,2-difluoropropane	420-99-5
HCFC-262	$C_3H_5F_2Cl$ -2-chloro-1,2-difluoropropane	NA
HCFC-262	$C_3H_5F_2Cl$ -1-chloro-1,3-difluoropropane	NA
HCFC-271	C_3H_6FCl -chlorofluoropropane	NA
HCFC-271	C_3H_6FCl -chlorofluoropropane	134190-54-8
HCFC-271	C_3H_6FCl -1-chloro-1-fluoropropane	430-55-7
HCFC-271	C_3H_6FCl -1-chloro-2-fluoropropane	430-46-6
HCFC-271	C_3H_6FCl -1-chloro-3-fluoropropane	462-38-4
HCFC-271	C_3H_6FCl -2-chloro-1-fluoropropane	20372-78-5
HCFC-271	C_3H_6FCl -2-chloro-2-fluoropropane	420-44-0
	All isomers of the above chemicals	

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Facility Information–Minnesota State Air Quality (AQ) Rules

AQ Facility ID number: _____ Agency Interest ID number: _____

Facility name: Washington County North Environmental Center Yard Waste Site

Some businesses and activities in Minnesota are subject to the following rules. Read each question to determine if the rule applies to you.

1) Minnesota Standards of Performance for Stationary Sources (Minn. R. ch. 7011)

1a) Does your facility have any equipment that meets the following definition?

"A furnace, boiler or other combustion equipment in Minnesota which burns fossil fuel for the purpose of producing steam, hot water, hot air, or other hot liquid, gas, or solid, where the smoke doesn't have direct contact with the heated medium for which another standard of performance has not been promulgated."

☒ No, my facility **is not** subject to Minn. R. 7011.0500-7011.0551. Go to question 1b.

☐ Yes, my facility **is** subject to Minn. R. 7011.0500-7011.0551. Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment. (Read the rule to determine the specific requirements that apply to your facility.)

1b) Is your facility type or process equipment found in Table H on page 3? This table contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference.

☒ No, none of the Minnesota Rules listed in Table H apply to my facility. Go to question 2.

☐ Yes, my facility or process equipment may be subject to the rule associated with it in Table H. Read the associated rule to see if it applies.

1c) After reading through Table H and any rule that may apply to your facility or equipment, list the ones that do apply to your air emission source(s) below. Again, Table H contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference. You do not need to list the state rule that incorporates a federal rule by reference. You do not need to list the Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment again, if it applies (see 1a, above).

Minnesota Rule Part that Applies	What the Rule Part Applies to (Whole facility or Specific Piece of Equipment)	Emission Unit ID Number

3) Standards of Performance for Industrial Process Equipment (Minn. R. 7011.0700 - 7011.0735)

3a) Do you have any industrial process equipment on-site that is not regulated by another Standard of Performance (NSPS or MN Rules Standard of Performance)?

☒ No, my equipment is not subject to this rule. Go to question 4.

☐ Yes. Go to 3b.

3b) **Opacity Standard**

(Note: Opacity is a measure of visible emissions or how much of the view is obscured by stack emissions. The emissions causing opacity are often smoke or dust.)

For industrial process equipment which was *in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity, except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60 minute period.

For industrial process equipment which was *not in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity.

3c) Does the industrial process equipment have particulate control equipment with a collection efficiency of at least 99 percent if it was in operation before July 9, 1969, or 99.7 percent if it was not in operation before July 9, 1969?

☐ No. Go to question 3d.

☐ Yes. My equipment is not subject to the remaining requirements of this rule. Go to question 4.

3d) Is the industrial process equipment located outside of the seven county Minneapolis-St. Paul metropolitan region **and** outside of the city of Duluth **and** at least 1/4 mile from any residence or public roadway, **and** does the industrial process equipment have particulate control equipment with a collection efficiency of at least 85 percent **and** is the operation of the entire facility in compliance with all ambient air quality standards?

☐ No, my equipment is subject to the remaining requirements. You can determine applicable limits using Table I.

☐ Yes, my equipment is not subject to the remaining requirements of this rule. Go to question 4.

4) Return to Form CAP-GI-09, question 6b.

Table H: Minnesota Standards of Performance for Stationary Sources *

Facility or Equipment Type	Associated Minnesota Rule
Direct Heating Equipment	7011.0600 through 7011.0625
Concrete Manufacturing Plants	7011.0850 through 7011.0860
Stage One Vapor Recovery	7011.0865 through 7011.0870
Hot Mix Asphalt Plants	7011.0900 through 7011.0925
Bulk Agricultural Commodity Facilities (Grain Elevators)	7011.1000 through 7011.1015
Coal Handling Facilities	7011.1100 through 7011.1140
Incinerators (waste combustors)	7011.1201 through 7011.1285
Sewage Sludge Incinerators	7011.1300 through 7011.1325
Petroleum Refineries	7011.1400 through 7011.1430
Liquid Petroleum and Volatile Organic Compounds (VOCs) Storage Vessels	7011.1500 through 7011.1515
Sulfuric Acid Plants	7011.1600 through 7011.1630
Nitric Acid Plants	7011.1700 through 7011.1725
Brass and Bronze Plants	7011.1900 through 7011.1915
Iron and Steel Plants	7011.2000 through 7011.2015
Inorganic Fibrous Materials	7011.2100 through 7011.2105
Stationary Internal Combustion Engine (Generators)	7011.2300
Municipal Solid Waste Landfills	7011.3500 through 7011.3510
Asbestos	7011.9921 through 701109927

* This table does **not** include Minnesota Rules which incorporate federal New Source Performance Standards (NSPS) and/or National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) by reference.

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AIC Group
Environmental Engineering

ISO 9001 QUALITY MANAGEMENT
ISO 14001 ENVIRONMENTAL MANAGEMENT

Title: Air Emissions Study Report - USA

Equipment: EcoChar Phoenix 8000

Date: 02/09/2024

Author: Conor M B Donnelly BSc (Hons)

Summary

This report has been generated in order to provide a summarised in-depth study of air emissions resulting from the use of EcoChar Phoenix 800 Biochar creation equipment.

The trial was conducted over a consecutive three day period and 12 hour working days utilising biomass as the infeed material feedstock with combustion rates ranging from 10-12 metric tonnes per hour and output rates of biochar ranging from 9-14% of infeed rates.

Currently at the time of writing, within the United States Of America Air Curtain Incinerators (ACI's) that are mobile and utilised for the production of Biochar are exempt from full CISWI/OSWI TITLE V regulations as of 17/04/2024 and are applicable to 40 CFR §60.2245–2282 (Subpart CCCC – for commercial ACIs) *https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-CCCC.*

Emissions Testing Methods

Mass Balance Combustion and Emission Justification

Mass balance justification was first undertaken on an academic paper study basis during the design of the equipment to ensure that sufficient air curtain / primary combustion air delivery was available to the feedstock and that sufficient under fire air to aid and control combustion temperatures was also available.

Direct Emissions Testing

Direct emissions testing was then utilised for live testing; this process was chosen to verify mass balance justification results and harvest real world data utilising clean biomass feedstock as the infeed material. A variety of moisture content level biomass were utilised within the three-day study to ensure as broad a range of material elemental composition as possible in order to obtain a real world average emissions data for use within equipment permitting and carbon sequestration calculations.

Air Emissions Limits

Pollutant	Emission Limit / Range	Unit	Basis / Notes
Carbon Dioxide (CO_2)	3,600 – 4,200	lbs/ton biomass	Biogenic CO_2 (not regulated)
Carbon Monoxide (CO)	30 – 60	lbs/ton biomass	Must minimize via complete combustion (EPA AP-42)
Particulate Matter (PM10)	8 – 13	lbs/ton biomass	From filterable emissions (EPA field tests & AP-42)
Nitrogen Oxides (NO_x)	3 – 6	lbs/ton biomass	Based on actual combustion temperatures
Volatile Organic Compounds	1 – 4	lbs/ton biomass	Due to incomplete combustion
Methane (CH_4)	0.5 – 1.5	lbs/ton biomass	Trace GHG from low-O_2 burn zones
Sulphur Dioxide (SO_2)	<0.1	lbs/ton biomass	Clean biomass is low in sulphur
Opacity (visual emissions)	≤ 10% *(average)*	Method 9	Compliance limit under 40 CFR §60.2250
	≤ 35% *(startup, ≤30 min)*	Method 9	Allowed for warm-up period only

Tested Emissions – Average Values

Pollutant	Emission Limit / Range	Tested Emissions Average	Unit	Basis / Notes
Carbon Dioxide (CO_2)	3,600 – 4,200	3721.16	lbs/ton biomass	Biogenic CO_2 (not regulated)
Carbon Monoxide (CO)	30 – 60	1.79	lbs/ton biomass	Must minimize via complete combustion (EPA AP-42)
Particulate Matter (PM10)	8 – 13	0.97	lbs/ton biomass	From filterable emissions (EPA field tests & AP-42)
Nitrogen Oxides (NO_x)	3 – 6	1.25	lbs/ton biomass	Based on actual combustion temperatures
Volatile Organic Compounds	1 – 4	0.059	lbs/ton biomass	Due to incomplete combustion
Methane (CH_4)	0.5 – 1.5	1.30	lbs/ton biomass	Trace GHG from low-O_2 burn zones
Sulphur Dioxide (SO_2)	<0.1	0.087	lbs/ton biomass	Clean biomass is low in sulphur
Opacity (visual emissions)	≤ 10% *(average)*	3	Method 9	Compliance limit under 40 CFR §60.2250
	≤ 35% *(startup, ≤30 min)*	20.5	Method 9	Allowed for warm-up period only

Tested Emissions – Sample 1

Pollutant	Emission Limit / Range	Tested Emissions Average	Unit	Basis / Notes
Carbon Dioxide (CO_2)	3,600 – 4,200	3796	lbs/ton biomass	Biogenic CO_2 (not regulated)
Carbon Monoxide (CO)	30 – 60	1.82	lbs/ton biomass	Must minimize via complete combustion (EPA AP-42)
Particulate Matter (PM10)	8 – 13	1.2	lbs/ton biomass	From filterable emissions (EPA field tests & AP-42)
Nitrogen Oxides (NO_x)	3 – 6	1	lbs/ton biomass	Based on actual combustion temperatures
Volatile Organic Compounds	1 – 4	0.013	lbs/ton biomass	Due to incomplete combustion
Methane (CH_4)	0.5 – 1.5	1.32	lbs/ton biomass	Trace GHG from low-O_2 burn zones
Sulphur Dioxide (SO_2)	<0.1	0.077	lbs/ton biomass	Clean biomass is low in sulphur
Opacity (visual emissions)	≤ 10% *(average)*	3	Method 9	Compliance limit under 40 CFR §60.2250
	≤ 35% *(startup, ≤30 min)*	22	Method 9	Allowed for warm-up period only

Tested Emissions – Sample 2

Pollutant	Emission Limit / Range	Tested Emissions Average	Unit	Basis / Notes
Carbon Dioxide (CO_2)	3,600 – 4,200	3669	lbs/ton biomass	Biogenic CO_2 (not regulated)
Carbon Monoxide (CO)	30 – 60	1.81	lbs/ton biomass	Must minimize via complete combustion (EPA AP-42)
Particulate Matter (PM10)	8 – 13	1	lbs/ton biomass	From filterable emissions (EPA field tests & AP-42)
Nitrogen Oxides (NO_x)	3 – 6	1.6	lbs/ton biomass	Based on actual combustion temperatures
Volatile Organic Compounds	1 – 4	0.062	lbs/ton biomass	Due to incomplete combustion
Methane (CH_4)	0.5 – 1.5	1.42	lbs/ton biomass	Trace GHG from low-O_2 burn zones
Sulphur Dioxide (SO_2)	<0.1	0.088	lbs/ton biomass	Clean biomass is low in sulphur
Opacity (visual emissions)	≤ 10% *(average)*	2	Method 9	Compliance limit under 40 CFR §60.2250
	≤ 35% *(startup, ≤30 min)*	16	Method 9	Allowed for warm-up period only

Tested Emissions – Sample 3

Pollutant	Emission Limit / Range	Tested Emissions Average	Unit	Basis / Notes
Carbon Dioxide (CO_2)	3,600 – 4,200	3812	lbs/ton biomass	Biogenic CO_2 (not regulated)
Carbon Monoxide (CO)	30 – 60	1.7	lbs/ton biomass	Must minimize via complete combustion (EPA AP-42)
Particulate Matter (PM10)	8 – 13	0.86	lbs/ton biomass	From filterable emissions (EPA field tests & AP-42)
Nitrogen Oxides (NO_x)	3 – 6	1.43	lbs/ton biomass	Based on actual combustion temperatures
Volatile Organic Compounds	1 – 4	0.099	lbs/ton biomass	Due to incomplete combustion
Methane (CH_4)	0.5 – 1.5	1.02	lbs/ton biomass	Trace GHG from low-O_2 burn zones
Sulphur Dioxide (SO_2)	<0.1	0.09	lbs/ton biomass	Clean biomass is low in sulphur
Opacity (visual emissions)	≤ 10% *(average)*	5	Method 9	Compliance limit under 40 CFR §60.2250
	≤ 35% *(startup, ≤30 min)*	23	Method 9	Allowed for warm-up period only

Tested Emissions – Sample 4

Pollutant	Emission Limit / Range	Tested Emissions Average	Unit	Basis / Notes
Carbon Dioxide (CO_2)	3,600 – 4,200	3669	lbs/ton biomass	Biogenic CO_2 (not regulated)
Carbon Monoxide (CO)	30 – 60	2	lbs/ton biomass	Must minimize via complete combustion (EPA AP-42)
Particulate Matter (PM10)	8 – 13	0.9	lbs/ton biomass	From filterable emissions (EPA field tests & AP-42)
Nitrogen Oxides (NO_x)	3 – 6	1.2	lbs/ton biomass	Based on actual combustion temperatures
Volatile Organic Compounds	1 – 4	0.061	lbs/ton biomass	Due to incomplete combustion
Methane (CH_4)	0.5 – 1.5	1.27	lbs/ton biomass	Trace GHG from low-O_2 burn zones
Sulphur Dioxide (SO_2)	<0.1	0.1	lbs/ton biomass	Clean biomass is low in sulphur
Opacity (visual emissions)	≤ 10% *(average)*	3	Method 9	Compliance limit under 40 CFR §60.2250
	≤ 35% *(startup, ≤30 min)*	27	Method 9	Allowed for warm-up period only

Tested Emissions – Sample 5

Pollutant	Emission Limit / Range	Tested Emissions Average	Unit	Basis / Notes
Carbon Dioxide (CO_2)	3,600 – 4,200	3596	lbs/ton biomass	Biogenic CO_2 (not regulated)
Carbon Monoxide (CO)	30 – 60	1.7	lbs/ton biomass	Must minimize via complete combustion (EPA AP-42)
Particulate Matter (PM10)	8 – 13	0.96	lbs/ton biomass	From filterable emissions (EPA field tests & AP-42)
Nitrogen Oxides (NO_x)	3 – 6	1.12	lbs/ton biomass	Based on actual combustion temperatures
Volatile Organic Compounds	1 – 4	0.059	lbs/ton biomass	Due to incomplete combustion
Methane (CH_4)	0.5 – 1.5	1.4	lbs/ton biomass	Trace GHG from low-O_2 burn zones
Sulphur Dioxide (SO_2)	<0.1	0.087	lbs/ton biomass	Clean biomass is low in sulphur
Opacity (visual emissions)	≤ 10% *(average)*	2	Method 9	Compliance limit under 40 CFR §60.2250
	≤ 35% *(startup, ≤30 min)*	16	Method 9	Allowed for warm-up period only

Tested Emissions – Sample 6

Pollutant	Emission Limit / Range	Tested Emissions Average	Unit	Basis / Notes
Carbon Dioxide (CO_2)	3,600 – 4,200	3785	lbs/ton biomass	Biogenic CO_2 (not regulated)
Carbon Monoxide (CO)	30 – 60	1.75	lbs/ton biomass	Must minimize via complete combustion (EPA AP-42)
Particulate Matter (PM10)	8 – 13	0.92	lbs/ton biomass	From filterable emissions (EPA field tests & AP-42)
Nitrogen Oxides (NO_x)	3 – 6	1.16	lbs/ton biomass	Based on actual combustion temperatures
Volatile Organic Compounds	1 – 4	0.063	lbs/ton biomass	Due to incomplete combustion
Methane (CH_4)	0.5 – 1.5	1.38	lbs/ton biomass	Trace GHG from low-O_2 burn zones
Sulphur Dioxide (SO_2)	<0.1	0.081	lbs/ton biomass	Clean biomass is low in sulphur
Opacity (visual emissions)	**≤ 10%** *(average)*	3	Method 9	Compliance limit under **40 CFR §60.2250**
	≤ 35% *(startup, ≤30 min)*	19	Method 9	Allowed for warm-up period only

Required testing

Test	Timing	Method	Standard
Initial Opacity Test	Within 60 days of reaching full charge rate, or no later than 180 days after initial startup	EPA Method 9	≤10% opacity average over 3 x 1-hr blocks (startup allowed ≤35% first 30 minutes)
Annual Opacity Test	Once per year, within 12 months of previous test	EPA Method 9	Same standards as above

Record Keeping Requirements

Record	Retention Time	Format
Initial and annual opacity test results	5 years	Electronic or paper
Operating logs (burn duration, fuel type)	5 years	Daily log sheets or automated system
Maintenance records	5 years	Including blower, pit integrity, etc.
Ash disposal documentation	5 years	Tipping tickets, reuse logs

Reporting Requirements

Report Type	Due Date	Recipient
Initial Opacity Test Report	Within 60 days of completion	MPCA / EPA if requested
Annual Test Report	Within 12 months of prior report	MPCA
Location Notification (Portable)	Before moving unit to new site	MPCA regional office
Deviation Report (if opacity exceeds limits)	Within 10 days of occurrence	MPCA/EPA (if required)

Further Information

Should any further information be required please email info@aic-group.co.uk.

Conor M B Donnelly BSc (Hons)

Technical Director

AIC Group Limited

Eastimated 2,000 Hour Carbonizer Emissions

Pollutant	Testing Results	Units	Estimated Emissions for 2000 Operating Hours	Units3
NOx	1.25	lb/ton	15	Tons
SOx	0.087	lb/ton	1.044	Tons
PM 10	0.97	lb/ton	11.64	Tons
CO	1.79	lb/ton	21.48	Tons
CH4	1.3	lb/ton	15.6	Tons

Assumptions	Units
2000	Operating Hours/Year
12	Tons wood debris/hour
24,000	Tons wood debris/year

Estimated Yearly Emissions

Pollutant	Estimated Yearly Emissions	Units
NOx	15	Tons
SOx	1.044	Tons
PM 2.5-10	11.64	Tons
CO	21.48	Tons
CH4	15.6	Tons

Eastimated Worst Case Yearly Carbonizer Emissions

Pollutant	Testing Results	Units	Estimated Emissions for 1400 Operating Hours2	Units3
NOx	1.25	lb/ton	65.7	Tons
SOx	0.087	lb/ton	4.57272	Tons
PM 10	0.97	lb/ton	50.9832	Tons
CO	1.79	lb/ton	94.0824	Tons
CH4	1.3	lb/ton	68.328	Tons

Assumptions	Units
8760	Operating Hours/Year
12	Tons wood debris/hour
105,120	Tons wood debris/year

Estimated Yearly Emissions

Pollutant	Estimated Yearly Emissions	Units
NOx	65.7	Tons
SOx	4.57272	Tons
PM 2.5-10	50.9832	Tons
CO	94.0824	Tons
CH4	68.328	Tons

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Fact Sheet on Clean Cellulosic Biomass and Non-Hazardous Secondary Materials Determinations[1]

What is clean cellulosic biomass?

Clean cellulosic biomass consists of residuals that are equivalent to traditional cellulosic biomass (i.e., harvested, plant-derived organic matter). Clean cellulosic biomass is considered "clean" when it contains contaminants at concentration levels no higher than those normally associated with virgin biomass material. Read Title 40, Code of Federal Regulations, Section 241.2. This fact sheet is to help generators and combustors understand how to make Non-Hazardous Secondary Materials determinations for clean cellulosic biomass.

Examples include but are not limited to:

- Agricultural and forest-derived biomass (e.g., green wood, forest thinnings, clean and unadulterated bark, sawdust, trim, tree harvesting residuals from logging and sawmill materials, hogged fuel, wood pellets, untreated wood pallets).
- Urban wood (e.g., tree trimmings, stumps, and related forest-derived biomass from urban settings).
- Corn stover and other biomass crops used specifically for the production of cellulosic biofuels (e.g., energy cane, other fast-growing grasses, byproducts of ethanol natural fermentation processes).
- Bagasse and other crop residues (e.g., peanut shells, vines, orchard trees, hulls, seeds, spent grains, cotton byproducts, corn and peanut production residues, rice milling and grain elevator operation residues).
- Wood collected from forest fire clearance activities, trees and clean wood found in disaster debris, clean biomass from land clearing operations, and clean construction and demolition wood.

[1] Disclaimer: The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. EPA provides this document to improve clarity to the public about existing requirements under the law and Agency policies.

Are units that combust clean cellulosic biomass as fuel regulated as solid waste incinerators under the Clean Air Act?

No, clean cellulosic biomass is considered equivalent to traditional fuels. It is not a secondary material or a solid waste when burned as a fuel, unless discarded (as described in the next question).

So, units burning this material as fuel would not be regulated as solid waste incinerators under Clean Air Act Section 129, which applies only to solid waste incineration units. While not regulated under Section 129, it is possible that the units may be subject to requirements under Section 111 or 112 of the Clean Air Act. Refer to additional details on CAA applicability in 40 CFR Part 60.

What does "unless discarded" mean in the context of clean cellulosic biomass?

In general, cellulosic biomass that is managed separately from solid waste and is going to be burned for energy recovery would not be considered "discarded." Examples of processes that would not constitute "discard" include:

Peanut shells collected at a nut processor and managed separately from any waste material before being sent to a facility that converts it to an alternative fuel.

Yard trimmings, leaves, branches, and other plant material collected separately from municipal solid waste to be converted to alternative fuel.

On the other hand, cellulosic biomass that has been mixed with solid waste, such as municipal solid waste or construction and demolition debris, or that has been disposed of (e.g., buried in a landfill), would be considered "discarded." Units combusting these co-mingled materials would be regulated as solid waste incinerators, unless the material is sufficiently processed and meets the legitimacy criteria for non-waste fuel in 40 CFR Part 241. A solid waste incineration unit may be regulated under CAA Section 129. Refer to additional details on CAA applicability in 40 CFR Part 60. For a detailed explanation on how to make a non-waste fuel determination under 40 CFR Part 241, read the Non-Hazardous Secondary Material (NHSM) Guide for Waste/Non-Waste Determinations.

How does construction and demolition debris relate to the definition of clean cellulosic biomass?

While *clean* construction and demolition wood is an example of clean cellulosic biomass, construction and demolition debris, which consists of a mixture of material resulting from construction and demolition activities, is not.

C&D debris must be processed to produce construction and demolition wood that would meet the definition of clean cellulosic biomass. Read the specific standards for processing in 40 CFR Section 241.4(a)(5), which include a requirement that the combustor obtain a written certification from each final processor of C&D wood that states: *the processed C&D wood has been sorted by trained operators in accordance with best management practices*.

What is the status of biomass that has been combined with municipal solid waste?

Biomass that is combined with municipal solid waste or other types of solid waste has been discarded.

A unit combusting biomass mixed with municipal solid waste would be a municipal solid waste incineration unit regulated under CAA Section 129, unless the combined material is first adequately processed and meets the legitimacy criteria in 40 CFR Section 241.3(d) as a non-waste fuel. For a detailed explanation on how to make a non-waste fuel determination, read the NHSM Guide for Waste/Non-Waste Determinations.

What is the status of clean cellulosic biomass that is processed to make biochar?

Clean cellulosic biomass that is processed to make a biochar product using pyrolysis or a similar process would not be considered discarded and would not be a secondary material or solid waste for the purposes of the Clean Air Act. Biochar produced from clean cellulosic biomass is considered a "traditional product" for the purposes of the regulations found at 40 CFR Section 241.3(d)(2)(iv).

What is the status of biomass that does not meet the definition of "clean cellulosic biomass"?

Biomass that is not "clean cellulosic biomass," such as treated wood, is a solid waste when combusted as fuel, unless it has been sufficiently processed and meets the legitimacy criteria for non-waste fuel in 40 CFR Section 241.3(d)(1) or meets one of the categorical non-waste fuels listings in 40 CFR Section 241.4. For example, resinated wood is a categorical non-waste fuel per 40 CFR Section 241.4(a)(2).

In addition, biomass that is not clean cellulosic biomass is considered discarded when used in a combustion unit to make biochar (and thus potentially subject to CAA 129), unless it meets the legitimacy criteria for a non-waste ingredient at 40 CFR Section 241.3(d)(2). These criteria include the requirement that the biochar product contains contaminants at levels that are comparable in concentration to, or lower than, those found in a traditional biochar product (i.e., biochar produced from clean cellulosic biomass).

Policy/Procedure #311

Food Establishments Corrective Action, Follow-up Inspection and Closure

References
Washington County Ordinance No. 149 Administrative Ordinance
Washington County Ordinance No. 215 Food Code Ordinance
Minnesota Statutes Chapter 157
Minnesota Rules Chapter 4626

Purpose
To provide guidance to determine when to follow-up on routine inspections to observe correction of violations, and to provide guidance on reasonable lengths of time for correction of violations and provide guidance on when to close a Food Establishment.

Policy
Washington County Public Health and Environment Environmental Specialist (ES) will conduct inspections at Food Establishments to assess compliance with applicable rules and regulations (section 2 of FPL SOP). ES will determine if identified violations require on-site corrective action, long-term corrective action, follow-up inspection or closure.

Procedure
Corrective Actions:
Corrective actions must be taken when violations are identified. When possible, violations should be corrected on-site during the inspection, but some may require additional time and be long-term corrective actions. In some scenarios, there will be both on-site corrective actions and long-term corrective actions. For example, soup cooked and cooled the previous day measured at 65 degrees Fahrenheit, the on-site corrective action is to discard the soup and the long-term corrective action is to change cooling methods and review proper cooling procedures.

On-site corrective action means a short-term fix that immediately abates violations that pose an uncontrolled risk. Examples of on-site corrective actions include but are not limited to:

- Employees that are working or are within 24 hours of illness symptoms of vomiting, diarrhea, jaundice, sore throat with fever will be excluded
- Having an employee with open wounds stop working and put a bandage on
- TCS Cold foods being held that are at or above 48°F (±2°F) will be discarded.
- TCS Hot foods being held that are at or below 130°F (±2°F) will be discarded.
- Foods that are determined to be from unapproved sources will be discarded.
- Foods that have not cooled properly will be discarded
- If cooling TCS foods does not appear likely to meet the cooling parameters, have the operator change the cooling method to accelerate the cooling. If not able to be cooled from 135°F to

70°F in 2 hours, the food may be rapidly reheated to 165°F and then the cooling process is started again using methods to cool the foods properly.

- If foods being cooked do not meet the minimum cooking temperatures of 4626.0340, the food item will be continued until the proper temperature is reached.
    a. Unless it is at the request of the consumer. If foods requiring cooking are served at temperatures below the code requirements, the consumer must be provided with a consumer advisory.
- If foods are under recall or have damaged packaging, they will be placed in a separate area for return to the supplier or discarded.
- If bare hand contact with ready to eat foods is observed, the RTE food item will be discarded and the use of gloves, utensils or other approved method will be initiated.
- If hand washing is not observed and potential contamination is observed, the food handler will be instructed to wash their hands.
- If cross-contamination is observed or if contaminated product is found, the food shall be discarded.
- If infestations of rodents or other vermin are observed, orders to implement control measures will be issued.

Long–term corrective actions are a means to address systemic and root cause of violations leading to uncontrolled risk. The means to address these issues will include training, self-inspection, monitoring, changes to procedures, and preventative maintenance. Examples of long-term corrective actions include but are not limited to.

- PIC and/or CFPM are not able to demonstrate knowledge – provide fact sheets and retest their knowledge during follow-up
- When an out-of-control risk factor is identified, a risk control plan is developed for the out-of-control risk factor to obtain long-term control.
- Standard operating procedures are developed by the person-in-charge so routine tasks and procedures are conducted. These could include a food preparation manual with the procedures to follow, a routine cleaning schedule for items and areas, and position descriptions so employees in those positions follow standard procedures.
- HACCP plans are developed by the person-in-charge for any food items that are smoked, cured vacuum packaged or acidified.
- Establishment modifications are required due to out-of-control risk factors. This could include items such as requiring a blast chiller when cooling is not done properly, the installation of additional hand washing sinks, or the addition of refrigeration.

Compliance Date Guidelines:

The following compliance dates are guidelines for the ES to follow, but it is the discretion of the ES and ES supervisor to determine the most appropriate compliance date to protect public health and gain compliance. When determining compliance dates, the ES must take other violations into account. For example, if there are signs of a rodent infestation, an order to seal holes/gaps should have a closer compliance date.

Violation Type	Compliance Date
P1 violation	Same day of inspection
P2 violation	1-7 days
P3 violation (cleaning)	3-7 days
P3 violation (physical facilities)	1 – 12 months

Follow-up Inspection:
The following items may require a follow-up inspection and documentation:

- 3 or more P1 violations ordered on an inspection report.
- 6 or more P2 violations are ordered on an inspection report.
- 10 or more violations in total are ordered on an inspection report.
- Complaint investigation.
- Foodborne illness investigation.
- Opening after closure.
- Lack of Demonstration of knowledge by Person-in-charge or duties of Certified Food Manager.
- Following administrative actions (i.e. informal hearing).
- Risk factors out of compliance that may pose risk to public health.
- Monitoring a pest infestation
- Monitoring HACCP Plan or Risk Control Plan.

The decision to conduct a follow-up inspection should include compliance history, frequency and validity of complaints, active managerial control and willingness to correct violations. Language and translated material barriers should be considered and addressed as applicable with operators who speak a primary language other than English.

A general timeline for follow-up inspection is:

- Once a Food Establishment is ready for reopening after closure
- 1-3 days for p1 violations
- 2 weeks for sanitation or maintenance
- 1 month for items requiring repair or replacement
- 3 months for repeated violations

Follow-up inspections should be scheduled with the PIC for a specific date and time, unless the ES and ES Supervisor determine that an unannounced follow-up inspection is warranted.

Confirmation of compliance for follow-up inspections may include an on-site follow-up inspection, picture from the operator showing compliance, or a video call with the operator showing compliance. The ES will generate a follow-up inspection report to reflect follow-up inspection.

If the Food Establishment still needs further follow-up inspections after one (1) follow-up inspection, the ES will alert the ES supervisor to discuss assessment of a follow-up inspection fee and possible enforcement action.

Emergency Closure:
If any of the following exists, the operator may be ordered to discontinue all operations of the food establishment until the Regulatory Authority confirms the correction of the violation:

- Failure to possess a valid establishment license
- Evidence of a sewage backup in a food preparation, food storage or utensil washing area
- Lack of potable, plumbed, hot or cold water to the extent that hand washing, utensil washing, food preparation, or toilet facilities are not operational
- Contaminated water supply
- Lack of electricity or gas service to the extent that hand washing, utensil washing, food preparation, food storage, lighting, or toilet facilities are not operational
- Evidence of an ongoing foodborne illness associated with the operation of the establishment
- Interruptions in the operation of the food establishment due to tornado, fire, flood, disaster or other emergency event
- Evidence of infestation of rodents or other vermin
- Evidence of cross contamination, filthy conditions, untrained staff or poor personal hygiene
- Lack of an effective means of sanitizing dishes or utensils
- Any time a public health nuisance exists as defined in MN Statutes 145A.02 subdivision 17
- If an immediate health or safety hazard exists

The emergency closure procedures shall follow the summary suspension of license provisions in the Washington County Administrative Ordinance, Section 8.3.

REVIEWED AND APPROVED:

David Brummel 6/25/2024

Director Date

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Signing Complete	Security Checked	5/28/2025 4:31:58 PM
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