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February 26, 2024

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

FEB 27 2024

**SENT VIA FEDEX**

**Re: Capped Permit Application and Request to Revoke Permit 01300017-008 for the Mankato, MN Terminal**

Dear MPCA Permitting Staff,

Magellan Pipeline Company, L.P. (Magellan), a wholly owned, indirect subsidiary of ONEOK, Inc. hereby submits the following application for a Capped Air Permit. Magellan is also requesting to terminate coverage for the Mankato Terminal under the existing Permit 01300017-008 upon issuance of the new Capped Permit. Actual emissions, as shown in the most current annual emissions inventory (RY2022), remain well below the thresholds allowed under the Capped Air Permit, and no projects are planned that would prevent Capped Permit eligibility.

The facility is subject to one New Source Performance Standard under 40 CFR Part 60 (NSPS), specifically 40 CFR 60 Part XX (NSPS for Bulk Gasoline Terminals). NSPS Part XX is allowable under the Capped Permit program. The facility is an area source of HAPs and is subject to 40 CFR 63 Subpart BBBBBB (NESHAP for gasoline distribution bulk terminals, bulk plants, and pipeline facilities). 40 CFR 63 Subpart BBBBBB does not require the source to obtain a part 70 or 71 permit (per §63.11081(b)). Therefore, Magellan remains eligible for a Capped Permit in place of the Mankato Terminal's existing permit.

Should you have any questions regarding this application, please contact me at [Brandy.Chappelle@oneok.com](mailto:Brandy.Chappelle@oneok.com) or (918) 574-7747. Alternatively, you may contact Al Reich at [areich@barr.com](mailto:areich@barr.com) or (218) 529-7144.

Sincerely,

*Brandy Chappelle*

Brandy Chappelle  
Environmental Air Specialist II  
ONEOK, Inc.

cc: Al Reich, Barr Engineering Company

Enclosures: Permit application (1 signed hard copy with USB drive containing electronic copies of files)  
Permit application fee (\$1,140)



## **Request to Void Permit 01300017-008 and Application for Capped Permit**



February 2024

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## 1.0 Introduction

Magellan Pipeline Company, L.P. (Magellan) Magellan Pipeline Company, L.P., is now a wholly owned, indirect subsidiary of ONEOK, Inc., and currently operates the Mankato Terminal in Blue Earth County, Minnesota under Air Emission Permit No. 01300017-008 and is subject to 40 CFR 60 Part XX and 40 CFR Part 63 Subpart BBBBBB.

After evaluating historical actual emissions, Magellan has concluded that the Mankato Terminal will qualify for a Capped Permit, based on the following items:

1. Actual emissions have been less than the thresholds allowed under the Capped Permit, as confirmed by the 2022 annual emission inventory and previous years' submittals.
2. The facility is subject to a New Source Performance Standards under 40 CFR Part 60 (specifically Part XX), which is allowable under the Capped Permit program.
3. The facility is an area source of hazardous air pollutants (HAPs) and is subject to 40 CFR 63 Subpart BBBBBB (NESHAP for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities).
4. 40 CFR 63 Subpart BBBBBB does not require the source to obtain a part 70 or 71 permit (per 63.11081(b)).

Therefore, Magellan is submitting this application package to terminate coverage under the existing Air Emission Permit No. 01300017-008 and apply for a Capped Permit. Official termination will be completed through the Minnesota Pollution Control Agency's (MPCA) e-Services portal in coordination with the MPCA as this application is processed.



## 2.0 Source and Process Description

The Mankato Terminal is located at 55199 State Highway 68, Mankato, MN in Blue Earth County. The terminal is a bulk petroleum products distribution center, operated by Magellan Pipeline Company, L.P., a wholly owned, indirect subsidiary of ONEOK, Inc. The terminal normally operates 24 hours per day, seven days per week, 52 weeks per year. The property covers approximately 16 acres, and consists of fourteen fixed roof storage tanks, five internal floating roof storage tanks, ten fixed roof additive storage tanks, a loading rack, a vapor combustion unit (VCU) for controlling volatile organic compounds (VOC) from the loading operations, an office building, and several storage buildings. The terminal distributes various grades of unleaded gasoline and distillate fuel oil. The quantity of products depends on the time of the year and the commercial demand for each product. The terminal receives petroleum products via pipeline, stores the products in above ground storage tanks, and then blends them with various additives in line when it is distributed through a loading rack to tanker trucks for delivery to local retailers. Vapors from the loading rack are controlled by the VCU.

A process flow diagram is included on the appropriate application form in Section 5.0. Facility-wide actual emissions are included in Attachment 1.

Table 2-1 depicts the emissions sources located at the facility. Additional details on each unit are included in the following sections.

**Table 2-1 Emission Sources**

ID	Description	Product	Control Method	Regulatory Applicability
TK 001 (Tank 582)	Fixed Roof	Diesel	N/A	N/A; Insig. Activity
TK 002 (Tank 583)	Fixed Roof	Diesel	N/A	N/A; Insig. Activity
TK 003 (Tank 584)	Fixed Roof	Diesel	N/A	N/A; Insig. Activity
TK 004 (Tank 585)	Fixed Roof	Ethanol	N/A	N/A
TK 005 (Tank 586)	Fixed Roof	Diesel	N/A	N/A; Insig. Activity
TK 006 (Tank 1322)	Internal Floating Roof	Regular Gasoline	N/A	GACT BBBBBB
TK 007 (Tank 1323)	Fixed Roof	#2 Fuel Oil	N/A	N/A; Insig. Activity
TK 008 (Tank 1324)	Internal Floating Roof	Regular Gasoline	N/A	GACT BBBBBB
TK 009 (Tank 1325)	Internal Floating Roof	Premium Gasoline	N/A	GACT BBBBBB
TK 010 (Tank 1382)	Fixed Roof	#2 Fuel Oil	N/A	N/A; Insig. Activity
TK 011 (Tank 1383)	Internal Floating Roof	Regular Gasoline	N/A	GACT BBBBBB
TK 012 (Tank 1384)	Internal Floating Roof	Regular Gasoline	N/A	GACT BBBBBB
TK 013 (Tank 6008)	Fixed Roof	#1 Fuel Oil	N/A	N/A; Insig. Activity
TK 014 (Tank 6009)	Fixed Roof	#1 Fuel Oil	N/A	N/A; Insig. Activity
TK 015 (Tank 6010)	Fixed Roof	#2 Fuel Oil	N/A	N/A; Insig. Activity
TK 016 (Tank 6011)	Fixed Roof	#2 Fuel Oil	N/A	N/A; Insig. Activity
TK 017 (Tank 6012)	Fixed Roof	#2 Fuel Oil	N/A	N/A; Insig. Activity
TK 018 (Tank 186)	Fixed Roof	Relief Tank	N/A	N/A

ID	Description	Product	Control Method	Regulatory Applicability
TK 019 (Tank 183)	Fixed Roof	Biodiesel	N/A	N/A; Insig. Activity
EU 001	Loading Rack-Gasoline Loading	Gasoline or Distillate blended with biodiesel, ethanol, or other additives	VCU	GACT BBBBBB NSPS XX
FS 001	Fugitive Components	Gasoline or Distillate	N/A	GACT BBBBBB

## 2.1 Truck Loading Rack

The truck loading rack can load three trucks simultaneously with an average of three trucks per hour loaded at the facility. Total organic compounds (TOC) from the truck loading rack must not exceed 80 mg/L in order to remain in compliance with 40 CFR 63 Subpart BBBBBB and more restrictively 35 mg/L for compliance with 40 CFR Subpart XX. This limit is met by operating the VCU and loading rack in accordance with manufacture specifications. The truck loading rack is equipped with a VCU designed to burn vapors displaced from cargo tanks during product loading, and only cargo tanks that meet the necessary vapor tightness requirements of 40 CFR 63 Subpart BBBBBB and 40 CFR 60 Subpart XX are loaded.

## 2.2 VCU and Loading Rack Collection System

The Terminal operates a VCU on the loading rack. Per 63.11088(a) and 60.502(b), the terminal must reduce emissions of TOC to ultimately less than or equal to 35 mg/L of gasoline loaded into gasoline cargo tanks at the loading rack. The VCU is operated 100% of the time the loading rack is in operation in accordance with federally enforceable requirements which effectively limit the PTE as defined in Minn. R. 7005.0100, subp. 35a. The facility completed performance testing in 2020 to verify compliance with emission and operating requirements set forth in Air Emission Permit No. 01300017-008. The terminal operates the VCU and collection system in accordance with the applicable regulatory standards, manufacturer specifications, and operating parameters established during the performance test.

## 2.3 Aboveground Storage Tanks

The Terminal contains two fixed roof and five internal floating roof aboveground storage tanks for product storage. The combined capacity for product storage is 196,124 barrels. Tanks 585 is a fixed roof tank used to store ethanol and tank 186 is a fixed roof pipeline relief tank. Tanks 1322, 1324, 1325, 1383 and 1384 are internal floating roof tanks that store gasoline products. The floating roof tanks are operated and maintained in accordance with 40 CFR 63, Subpart BBBBBB.

The terminal also operates twelve fixed roof product tanks, identified as Tanks 582 through 584, 586, 1323, 1382, 6008 through 6012 and tank 183. The fixed roof product tanks have a combined storage capacity of 220,067 barrels. These are classified as insignificant activities.

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## **2.4 Insignificant Activities**

The Mankato Terminal also includes fixed roof additive tanks, petroleum distillate storage tanks, biodiesel storage tanks, and operates biodiesel, butane, and ethanol unloading operations which all qualify as insignificant activities which are listed in the following permitting forms.

All other equipment such as boilers, compressors, or vacuums are either electric or used for activities that are not required to be considered when determining the terminal emissions as outlined in Minn. R. 7007.1300 Subp.1A.

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## 3.0 Regulatory Applicability

This section describes the regulatory applicability of primary Federal and State air quality rules to this Facility.

### 3.1 Federal New Source Review (NSR)/Prevention of Significant Deterioration (PSD)

Blue Earth County is designated as “in attainment” or “unclassifiable” for the National Ambient Air Quality Standards for all criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen oxides (NO<sub>x</sub>), ozone (O<sub>3</sub>), particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>), particulate matter less than 10 microns in diameter (PM<sub>10</sub>), and sulfur dioxide (SO<sub>2</sub>). Minnesota is a delegated state for the PSD program.

With respect to PSD, a “major stationary source” is one that:

[1] has the potential-to-emit (PTE) 100 tpy or more of any criteria pollutant for a facility that is one of the 28 industrial source categories listed in 40 CFR 52.21(b)(1)(i)(a); or

[2] has the PTE 250 tpy or more of any criteria pollutant if the facility is not on the list of industrial source categories.

The Mankato Terminal has a total storage capacity greater than 300,000 barrels, which qualifies the terminal as a listed source category under the PSD rules, specifically “Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels.” The current facility-wide PTE, which now includes tank cleaning and degassing emissions, does exceed 100 tpy for VOC emissions, and therefore, the facility could be classified as a major PSD source. However, by applying for a capped permit, Magellan is proposing to limit the VOC emissions from the facility to below major source thresholds as a synthetic minor source under the MPCA’s capped permit program.

Additionally, any physical change that would occur at a stationary source would be subject to PSD permitting if the change would constitute a major stationary source by itself. The potential VOC emissions represented in this application from the inclusion of cleaning and degassing event emissions do not exceed 100 tpy on its own, and thus does not constitute a major source and is not subject to PSD review.

### 3.2 Federal New Source Performance Standards (NSPS)

NSPS are applicable to certain categories of affected facilities that are constructed, modified, or reconstructed and that meet other applicability criteria on or after a compliance date upon which a relevant subpart applies. The Mankato Terminal is subject to 40 CFR 60 Subp. XX – Standards of Performance for Bulk Gasoline Terminals. The Mankato Terminal’s VCU is used to meet the applicable requirements of 40 CFR 60 Subp. XX. All required notifications and compliance demonstrations for Subp. XX have been submitted, and no new actions are required as part of this permitting action.

There are no other affected sources subject to NSPS.

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### 3.3 Federal National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories

The Mankato Terminal will accept the HAP limits specified in the Capped Permit Option 2 ( $\leq 8$  tons per year for each HAP and  $\leq 20$  tons per year for all HAPs combined). Actual HAP emissions in 2022 were 1.81 tpy for combined HAPs, and 0.56 tpy for n-hexane as the highest single HAP, which will maintain the Mankato Terminal as an area source of HAPs.

No NESHAP standards (40 CFR Part 61) were found to apply to the Mankato Terminal.

40 CFR 63 Subpart BBBBBB is applicable to the facility (National Emission Standards for Hazardous Air Pollutants Area Source Standards for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities).

All required compliance demonstrations for Subpart BBBBBB have been already submitted, and no changes to original compliance submittals are required as part of this permitting action.

### 3.4 Minnesota Capped Permit Eligibility

The Mankato Terminal meets the eligibility criteria for a Capped Permit as required under Minn. R. 7007.1140 Subp. 1 specifically:

- The 12-month rolling sums of actual emissions at the stationary source for each pollutant are less than or equal to the thresholds in Minn. R. 7007.1141 as demonstrated by the Mankato Terminal air compliance records and annual emission inventories.
- The facility does not anticipate making changes in the next year which will cause the facility's 12-month rolling to exceed any applicable thresholds.
- The facility has shown compliance with ambient air quality using the SCREEN3 tool (allowable under Minn. R. 7007.1148 subpart 3).

Additionally, the Mankato Terminal does not meet any of the general ineligibility requirements listed under Minn. R. 7007.1140 Subp. 2. That is, the terminal:

- Is not required to obtain a permit under any of the specifically listed programs therein,
- Is not subject to requirements of a state implementation plan, and
- Is only subject to new source performance standards on the list contained in Minn. R. 7007.1140 Subp. 2(E).

Therefore, Magellan has prepared this application package to transition the Mankato Terminal to a Capped permit.

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### **3.5 Minnesota Capped Permit Compliance and Air Rules**

The Mankato Terminal will be subject to the compliance requirements of the capped permit program as provided in Minn. R. 7007.1140 for facilities with capped permits. Additionally, all other state rules will continue to be complied with, as currently listed in the existing permit No. 01300017-008.

The Mankato Terminal will continue to track monthly tank and loadout product volumes for each product stored and loaded at the terminal to calculate monthly emissions.

### **3.6 Minnesota Capped Permit Facility Modifications**

Magellan understands that modifications or changes to the Mankato Terminal are allowed by this permit without requesting a modification to the permit, provided that the following conditions are evaluated before making the change per Minn. R. 7007.1143 Subp. 3 and Minn. R. 1142 Subp. 1a if an emissions unit subject to a capped permit eligible NSPS is to be added, or an existing unit becomes subject to a capped permit eligible NSPS.

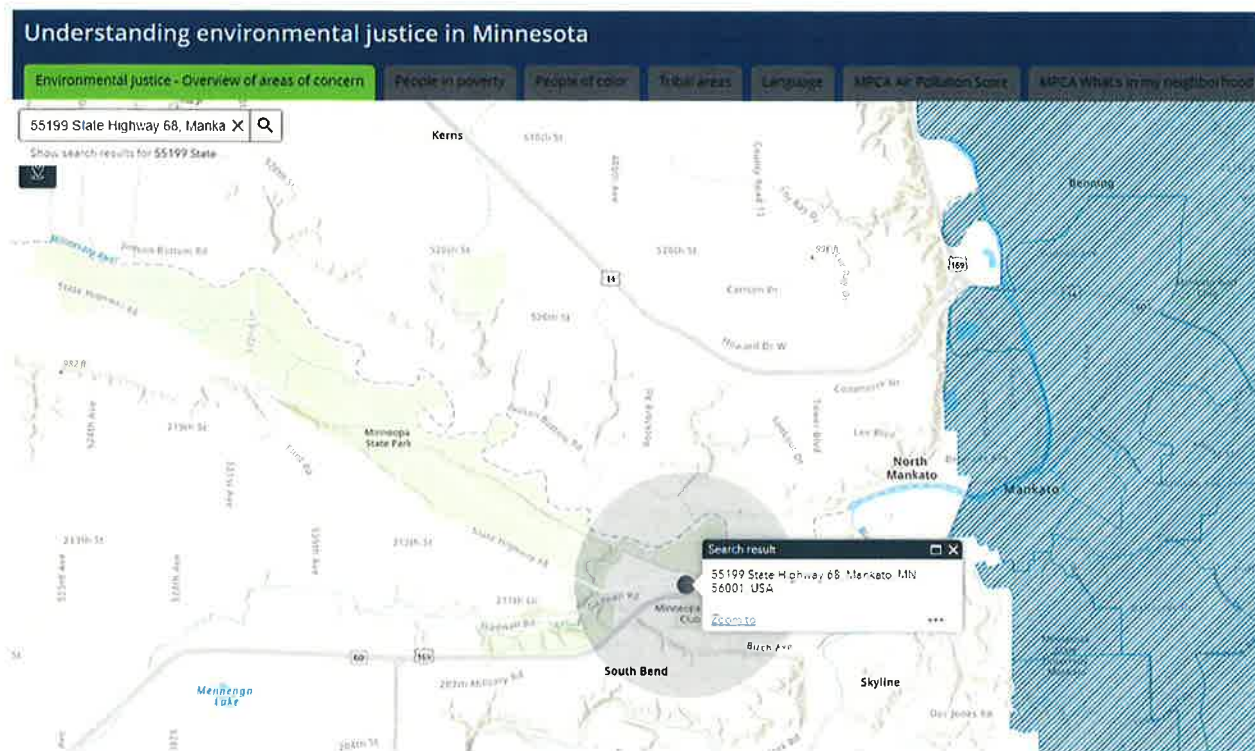
1. Re-evaluate whether the emission limits in the permit can continue to be met.
2. Comply with any NSPS or NESHAP that becomes applicable, specifically:
  - a. Obtaining a Title V permit if the NESHAP requires it, and
  - b. Notifying the MPCA using Form CR-06 if a new NSPS becomes applicable with the information required by Minn. R. 7007.1142 Subp. 1a.

### **3.7 Environmental Justice in Minnesota**

At the time of submittal, the Mankato Terminal is not currently identified in or near an Environmental Justice area as identified using the MPCA's "Understanding Environmental Justice in Minnesota" mapping tool and a one-mile buffer.

The Mankato Terminal, and one mile buffer are shown below in Figure 3-1.





**Figure 3-1 MPCA Environmental Justice Area Screening<sup>1</sup>**

This application will already be subject to a public comment period per the MPCA's capped permit program requirements.

## 4.0 Emission Calculation Discussion

The primary pollutants of concern are volatile organic compounds (VOC), hazardous air pollutants (HAPs), nitrogen oxides (NO<sub>x</sub>), and carbon monoxide (CO). There are also insignificant emissions consisting of PM (particulate matter), PM<sub>10</sub> (particulate matter smaller than 10 microns in aerodynamic diameter), PM<sub>2.5</sub> (particulate matter smaller than 2.5 microns in aerodynamic diameter) from truck traffic.

The primary sources of VOC emissions are routine and non-routine emissions from the storage tanks and emissions from the controlled loadout operations. Facility-wide actual emission calculations for 2022 are provided in Attachment 1. The storage tank emissions have been calculated using the TankESP application. TankESP incorporates the calculation methodology found in US EPA, AP-42, fifth edition, Chapter 7.1 Organic Liquid Storage Tanks (June 2020). Loading rack VOC emissions are calculated based on the emission calculation methodology found in US EPA, AP-42, fifth edition, Chapter 5.2 Transportation and Marketing of Petroleum Liquids (June 2008).

<sup>1</sup> <https://arcg.is/vqaGa>, accessed on February 1, 2024

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HAPs are speciated components of the VOC emissions generated by the operation of the storage tanks and loading operations. These emissions are calculated primarily based on monthly throughput and loadout volumes, and product types for both the storage tanks and loading rack.

Fugitive VOC emissions have been calculated using EPA Bulletin 453/R-95-017, Protocol for Equipment Leak Emission Estimates, November 1995 using factors from Table 2-3: Marketing Terminal Average Emission Factors. These emissions are calculated based on total fugitive equipment counts and assume year-round operation. They contribute a nominal amount to overall VOC emissions.

NO<sub>x</sub> and CO emissions are emitted from the VCU as result of combusting vapors associated with the loadout operations. They are calculated using emission factors based on vendor guarantees supplied by the manufacturer for each respective pollutant. Emission factors for this unit are based on AP-42, Webfire, and performance testing data as appropriate, and specific details can be found in Attachment 1.

These emissions have been calculated and submitted for the 2022 annual emissions inventory and are supplied here for reference, in addition to being already submitted through the MPCA's Consolidated Emissions Data Repository (CEDR). The Mankato Terminal has operated more than 12 consecutive months and is not undergoing any operational changes or construction associated with this application. Therefore, the most recent year's actual emissions have been included as required by Minn. R. 7007.1140 Subp. 1(A) and Subp. 1(B).



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## 5.0 Capped Permit Application Forms



**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.: 01300017

AQ File No.: 586

Facility Name: Magellan Pipeline Co LP-Mankato Terminal

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/hqzg483>.

**Capped Permit Emission Thresholds for Options 1 and 2**

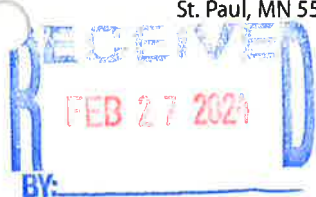
POLLUTANT	Option 1 Threshold (ton/year)	Option 2 Threshold (ton/year)
Hazardous Air Pollutants (HAP)	9.0 tons per year for a single HAP 20 tons per year total for all HAPs	8.0 tons per year for a single HAP 20 tons per year total for all HAPs
Particulate Matter (PM)	90 tons per year	75 tons per year
PM smaller than 10 microns (PM <sub>10</sub> )	90 tons per year	75 tons per year
Volatile Organic Compounds (VOC)	90 tons per year	85 tons per year
Sulfur Dioxide (SO <sub>2</sub> )	90 tons per year	90 tons per year
Nitrogen Oxides (NO <sub>x</sub> )	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 <sub>2e</sub> )	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.

- Which capped permit option are you applying for?  
☐ Capped permit Option 1; Go to question 2.  
☒ Capped permit Option 2; Go to question 3.
- 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.
- 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.
- 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<sub>2</sub>; the 24-hour PM<sub>10</sub>; and annual Nitrogen Dioxide (NO<sub>2</sub>) 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 qualify 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<sub>10</sub> 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 qualify 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.


*Barr Engineering*

Check From: \_\_\_\_\_

Check # 280111

Amt of Check 1140-

Date of Check \_\_\_\_\_

1a) AQ Facility ID number: 01300017 of Dep. 1b) Agency Interest ID number: 586

2) Facility name: Magellan Pipeline Co LP-Mankato Terminal

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
<input type="checkbox"/> Recertification of a previously-submitted permit application – tracking number:	NA	NA	NA
<input type="checkbox"/> Supplement to a previously-submitted permit application – tracking number:	NA	NA	NA
<input type="checkbox"/> 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:

Choose one of the following:				Quantity	Points	Total points
<input type="checkbox"/> Application for an Individual Part 70 Permit					x 75 =	
<input type="checkbox"/> Application for an Individual State Permit					x 50 =	
<input type="checkbox"/> Application for reissuance of an expiring Individual Part 70 or State Permit (does not include modifications to a permit that require an amendment)						
<b>Note:</b> Applications outside of the e-services website will only be accepted if there is a request for confidentiality.						
Expiration date:			Application due date (180 days prior to expiration):	NA	NA	NA
(mm/dd/yyyy)		(mm/dd/yyyy)				
<input type="checkbox"/> Application for a major amendment to an Individual State or Part 70 Permit						
<input type="checkbox"/> Includes reconstruction or modification of a New Source Performance Standards (NSPS) Affected Facility not subject to New Source Review					x 25 =	
<input type="checkbox"/> Application for a moderate amendment to an Individual State or Part 70 Permit					x 15 =	
<input type="checkbox"/> Application for a minor amendment to an Individual State or Part 70 Permit					x 4 =	
<input type="checkbox"/> 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 <a href="https://www.pca.state.mn.us/data/e-services">https://www.pca.state.mn.us/data/e-services</a> . 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
<input type="checkbox"/> Application for a Registration Permit <input type="checkbox"/> Option A <input type="checkbox"/> Option B <input type="checkbox"/> Option C <input type="checkbox"/> Option D		x 2 =	
<input type="checkbox"/> Application for a Capped Permit <input type="checkbox"/> Option 1 <input checked="" type="checkbox"/> Option 2	1	x 4 =	4
<input type="checkbox"/> Application for a Part 70 General Permit <input type="checkbox"/> Manufacturing General Permit <input type="checkbox"/> Low Emitting Facility General Permit		x 4 =	
<input type="checkbox"/> Application for a State General Permit <input type="checkbox"/> Nonmetallic Mineral Processing General Permit		x 3 =	
<input type="checkbox"/> 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 x \$285 = \$ 1140  
(total points from item 4) (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 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 28<sup>th</sup> 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 28<sup>th</sup> Street intersection). I understand that the CL&E process applies before a permit can be issued.

**Owner responsible official**

Print name: Keith Faucett

Title: Director of Operations

Signature: 

Date (mm/dd/yyyy): 2/21/2024

**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 – 6<sup>th</sup> 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.



## Facility Information for Capped Permits

Air Quality Permit Program

Doc Type: Permit Application

## Instructions on Page 3.

1a) AQ Facility ID number: 01300017 1b) Agency Interest ID number: 586

2) Facility name: Magellan Pipeline Co LP-Mankato Terminal

## 3) Facility location

Street Address: 55199 State Highway 68

City: Mankato County: Blue Earth Zip code: 56001

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

Mailing Address: 55199 State Highway 68

City: Mankato State: MN Zip code: 56001

## 4) Corporate/Company Owner

Name: Magellan Pipeline Co LP

Mailing Address: One Williams Center  
OTC 8

City: Tulsa State: OK Zip code: 74172-0140

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

## Legally responsible official

Name: Keith Faucett Phone: 918-574-7911

Title: Director of Operations Fax:

Mailing Address: One Williams Center  
OTC 9

City: Tulsa State: OK Zip code: 74172

Email address: Keith.Faucett@oneok.com

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: Brandy Chappelle Phone: 918-574-7747  
Title: Environmental Air Specialist Fax: \_\_\_\_\_  
Organization: Magellan Pipeline Co LP  
Mailing Address: One Williams Center  
OTC 8  
City: Tulsa State: OK Zip code: 74172-0140  
Email address: Brandy.Chappelle@oneok.com

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

Name: Brandy Chappelle Phone: 918-547-7447  
Title: Environmental Air Specialist Fax: \_\_\_\_\_  
Organization: Magellan Pipeline Co LP  
Mailing Address: One Williams Center  
OTC 8  
City: Tulsa State: OK Zip code: 74172-0140  
Email address: Brandy.Chappelle@oneok.com

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

Primary: 4613 / Refined Petroleum Products  
Secondary (if applicable): /  
Tertiary (if applicable): /  
Primary NAICS code: /

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

The terminal is a bulk petroleum products terminal.

- 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: 01300017-008  
☐ 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):

19) (Reserved for future use)

20) Person preparing this permit application:

Name: Al Reich

Title: Senior Chemical Engineer

Email address: areich@barr.com

Organization: Barr Engineering Co.

Mailing address 325 S Lake Ave

Suite 700

City: Duluth

State: MN

Zip code: 55802

Phone: 218-529-7144

Fax: \_\_\_\_\_

Date (mm/dd/yyyy): 2/1/2024

## 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, operates, controls, or supervises, to any degree, an emissions unit, emission facility or stationary source. For example, if the facility is owned by a partnership, then the second owner's name and information are included at item 6 of this form. Another example is two facilities, owned separately, where one facility exists to support the other; both facilities are subject to one permit, the two owners are listed on the permit, and need to be included on this form, one at item 4 and one at item 6. A legally responsible official needs to be listed for each owner and operator. The legally responsible official must be a person meeting the criteria for signing the application (defined in Minn. R. 7007.0100, subp. 21), which is the person who performs policy or decision-making functions for the company. (A delegate may be allowed in some cases. Please refer to the rule section listed above.)

4) **Corporate/Company Owner** -- Fill in the owner name and mailing address. The owner receives the air emission permit from the MPCA. The owner is the "Permittee." All other owners and operators need to be listed in items 5-7 and are "Co-permittees." Check the one "owner classification box" that most closely describes your facility.

5) **Corporate/Company Operator (if different from owner)** -- The operator runs the facility on a day-to-day basis. If a separate management company operates the facility, its name goes here. The operator is also a "Permittee." Fill in if applicable; if not, fill in "N/A."

6) **Additional corporate/company owner or operator (if applicable)** -- If the emission facility has more than one owner, for example a partnership, then the second owner's name and address go here.

7) **Do you have more corporate/company owners and/or operators?** If you have additional owners or operators attach additional sheets with the information indicated in item 6 for each additional corporate/company owner and/or operator.

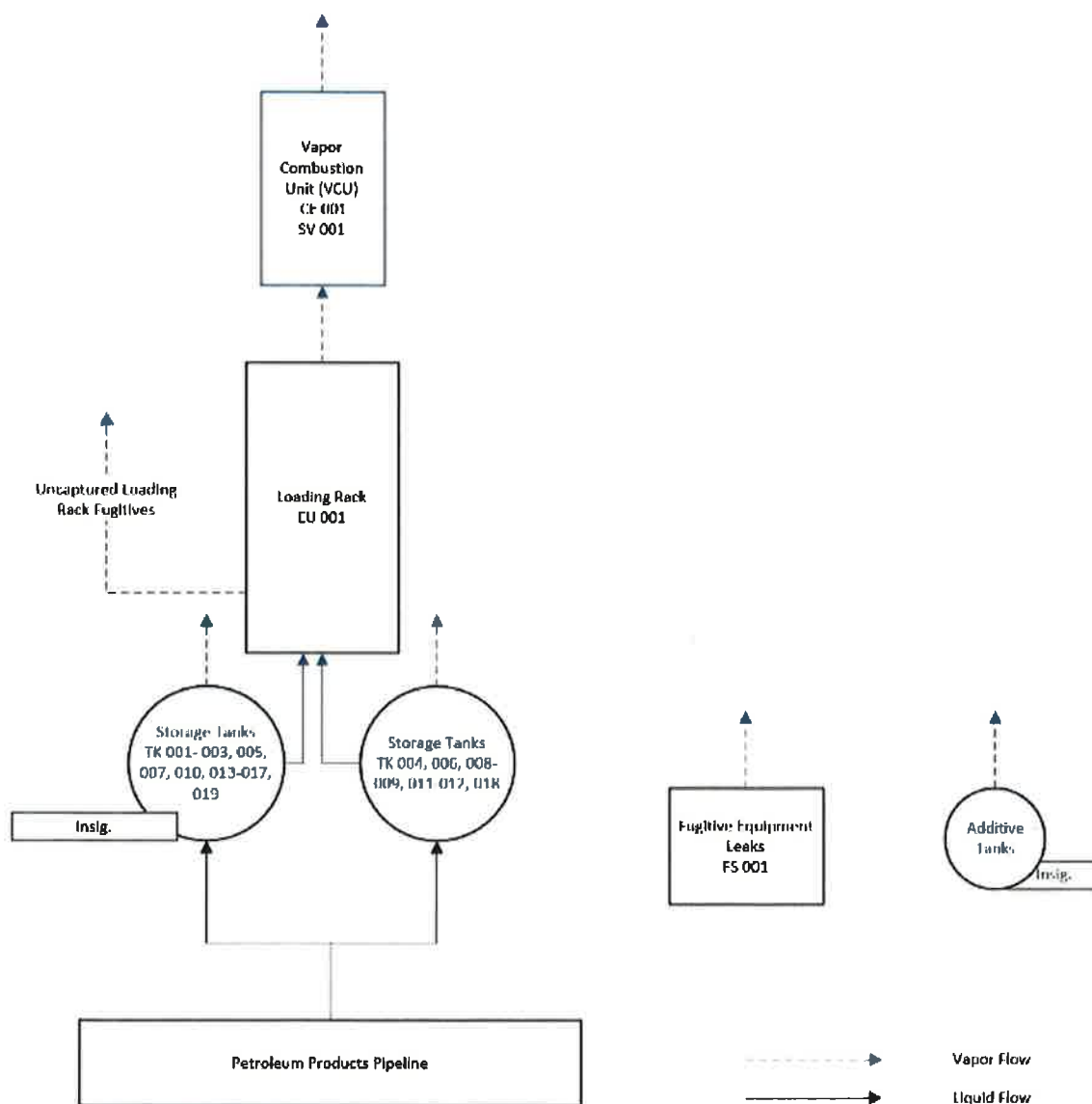
**Process Flow Diagram**

Air Quality Permit Program

Doc Type: Permit Application

**Instructions on Page 2.**

- 1a) AQ Facility ID number: 01300017
- 1b) Agency Interest ID number: 586
- 2) Facility name: Magellan Pipeline Co LP-Mankato Terminal
- 3) Flow diagram: (insert flow diagram below or attach a separate sheet)





**Minnesota Pollution Control Agency**

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

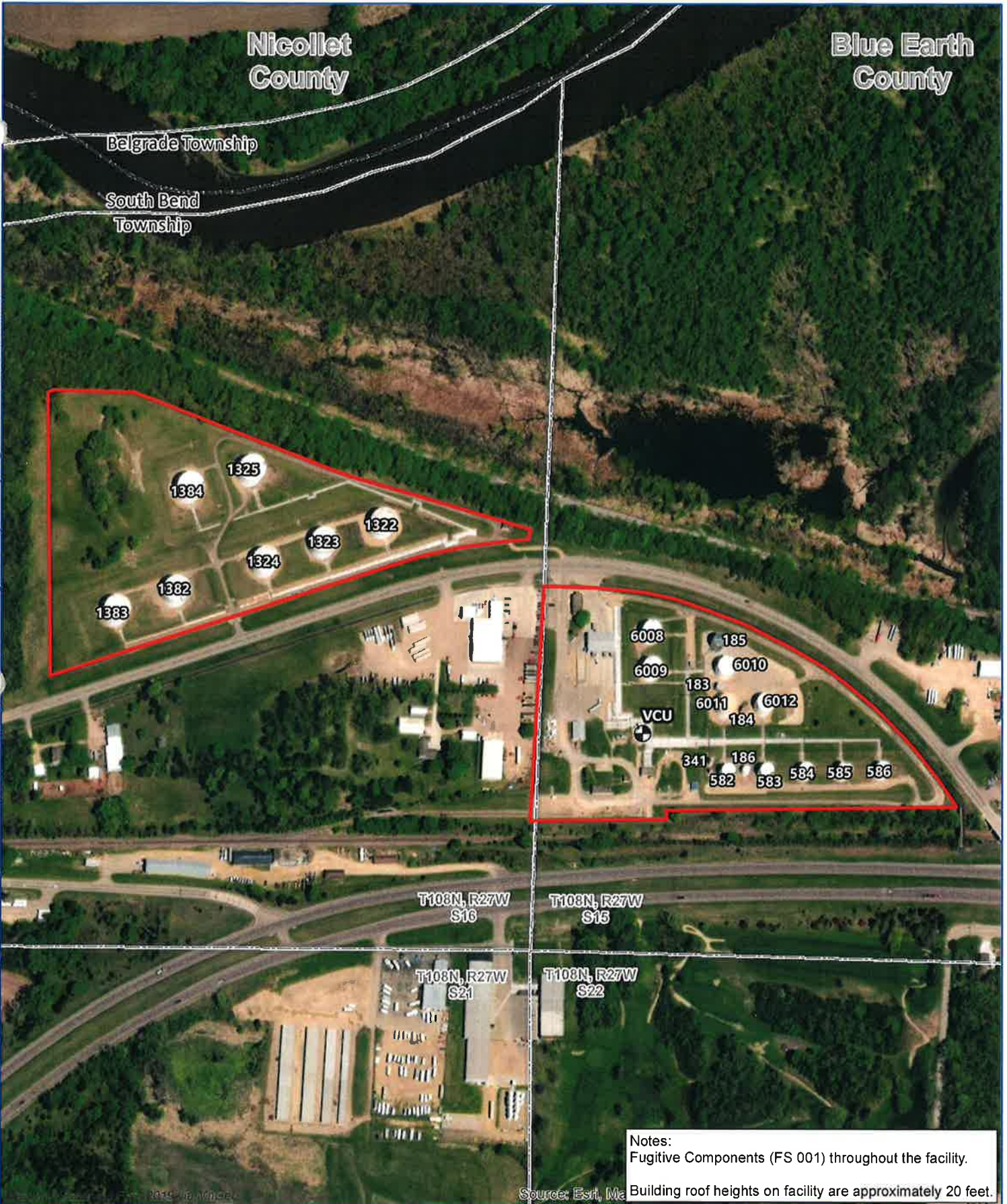
PERMIT APPLICATION FORM **CAP-GI-03**  
**FACILITY AND STACK/VENT**  
**DIAGRAM**  
10/7/04

- 
- 1) AQ Facility ID No.: **01300017**
- 
- 2) Facility Name: **Magellan Pipeline Co LP-Mankato Terminal**
- 
- 3) Facility and Stack/Vent Diagram:

**SEE FIGURE ON FOLLOWING PAGE**



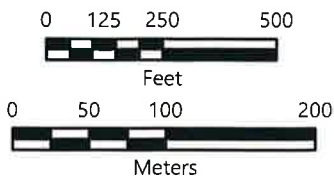
Barr Footer: ArcGIS 10.6.1-3-11-22 1444 File: I:\Client\Magellan\_Midstream\Work\_Orders\Mankato\_23071040\Maps\Reports\Capped\_Aerial\CAP-GI-03-Figure 1 Facility Boundary Diagram Mankato 2021.mxd User: vaw



Emission Point



Facility Boundary



Notes:  
Fugitive Components (FS 001) throughout the facility.  
Building roof heights on facility are approximately 20 feet.

CAP-GI-03  
FACILITY DIAGRAM  
Magellan Pipeline Co LP  
Magellan Midstream Partners, L.P.  
Mankato, MN

FIGURE 1



# Minnesota Pollution Control Agency

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

PERMIT APPLICATION FORM **CAP-GI-04**  
**STACK/VENT INFORMATION**

3/7/06

1) AQ Facility ID No.: **01300017** 2) Facility Name: **Magellan Pipeline Co LP-Mankato Terminal**

3a) SV ID No.	3b) Operator's Description	3c) Height of Opening From Ground (ft.)	3d) Inside Diameter in ft. (left column only) or Length x Width in ft. (both columns)		3e) Design Flow Rate at Exit (acfm)	3f) Exit Gas Temperature (° F)	3g) Rate/Temp Information Source	3h) Discharge Direction
001	VCU Stack	45	7.5		33.587	68	E	U



**1a)** AQ Facility ID number: 01300017 **1b)** Agency Interest ID number: 586

2) Facility name: Magellan Pipeline Co LP-Mankato Terminal

[illegible]

## 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.



1a) AQ Facility ID number: 01300017 1b) Agency Interest ID number: 586

2) Facility name: Magellan Pipeline Co LP-Mankato Terminal

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	Gasoline Loading			
3c) Emission unit operator's description	Loading Rack			
3d) Manufacturer				
3e) Model number				
3f) Max design capacity, material and units	25200 units: Gal/ Hr material: Gasoline Vapors	units: / material:	units: / material:	units: / material:
3g) Commence construction date (mm/dd/yyyy)	3/15/1997 <input type="checkbox"/> to be determined	<input type="checkbox"/> to be determined	<input type="checkbox"/> to be determined	<input type="checkbox"/> to be determined
3h) Initial startup date (mm/dd/yyyy)	6/1/1997 <input type="checkbox"/> to be determined	<input type="checkbox"/> to be determined	<input type="checkbox"/> to be determined	<input type="checkbox"/> to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method				
3k) Engine use				
3l) Engine displacement	Units:	Units:	Units:	Units:
3m) Subject to CSAPR?				
3n) Electric generating capacity (megawatts)				
3o) SIC code	5171			
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.: **01300017** 2) Facility Name: **Magellan Pipeline Co LP - Mankato Terminal**

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) Construction 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
001	NA	Diesel; Tank 582	40	45	458	5. Fixed r						1947
002	NA	Diesel; Tank 583	40	45	458	5. Fixed r						1947
003	NA	Diesel; Tank 584	40	45	458	5. Fixed r						1947
004	NA	Ethanol; Tank 585	40	45	458	5. Fixed r						1947
005	NA	Diesel; Tank 586	40	45	458	5. Fixed r						1947
006	NA	Regular Gasoline; Tank 1322	40	85	1570	4. Interna	3. Column s	7	0.7	2. Bolted,	2. Mecha	1950
007	NA	#2 Fuel Oil; Tank 1323	40	85	1635	5. Fixed r						1950
008	NA	Regular Gasoline; Tank 1324	40	85	1570	4. Interna	3. Column s	1	0.7	2. Bolted,	7. Resilie	1950
009	NA	Premium Gasoline; Tank 1325	40	85	1570	4. Interna	3. Column s	1	0.7	2. Bolted,	7. Resilie	1950
010	NA	#2 Fuel Oil; Tank 1382	40	85	1634	5. Fixed r						1954



# 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.: **01300017** 2) Facility Name: **Magellan Pipeline Co LP - Mankato Terminal**

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) Construction 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
011	NA	Regular Gasoline; Tank 1383	40	85	1569	4. Internal	3. Column s	1	0.7	2. Bolted,	7. Resilie	1954
012	NA	Regular Gasoline; Tank 1384	40	85	1570	4. Internal	3. Column s	7	0.7	2. Bolted,	3. Mecha	1954
013	NA	#1 Fuel Oil; Tank 6008	40	60	816	5. Fixed r						1947
014	NA	#1 Fuel Oil; Tank 6009	40	60	806	5. Fixed r						1947
015	NA	#1 Fuel Oil; Tank 6010	40	60	815	5. Fixed r						1947
016	NA	#2 Fuel Oil; Tank 6011	40	60	815	5. Fixed r						1947
017	NA	#2 Fuel Oil; Tank 6012	40	60	815	5. Fixed r						1947
018	NA	Relief Tank 186	24	25	84	5. Fixed r						1947
019	NA	Biodeisel; Tank 183	24	25	77	5. Fixed r						1947



**Instructions on page 2**

**Capped Permit facility emissions summary**

Air Quality Permit Program

Doc Type: Permit Application

**Instructions on page 2**
**1a)** AQ Facility ID number: 01300017 **1b)** Agency Interest ID number: 586
**2)** Facility name: Magellan Pipeline Co LP-Mankato Terminal

3a) Emission source type	3b) Emission source ID number	3c) CAS#:			CAS#:	630-08-0	CAS#:			
		3d) Pollutant name:	VOC		Pollutant name:	CO	Pollutant name:	NOx		
		3e) Potential		3f) optional	Potential		Actual	Potential		Actual
		lbs per hr	tpy unrestricted	Actual tons per yr	lbs per hr	tpy unrestricted	tons per yr	lbs per hr	tpy unrestricted	tons per yr
TK	TK 004	3.04	13.31							
TK	TK 006	24.52	6.10							
TK	TK 008	195.74	10.06							
TK	TK 009	195.74	10.06							
TK	TK 011	195.74	10.06							
TK	TK 012	24.42	5.66							
TK	TK 018	0.37	1.63							
EU	EU 001	10.05	44.01		2.10	9.22		0.84	3.69	
FS	FS 001	0.05	0.23							

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	650.77	103.66	34.78	2.10	9.22	4.83	0.84	3.69	1.93

**Capped Permit facility emissions summary**

Air Quality Permit Program

Doc Type: Permit Application

**Instructions on page 2**
**1a)** AQ Facility ID number: 01300017 **1b)** Agency Interest ID number: 586
**2)** Facility name: Magellan Pipeline Co LP-Mankato Terminal

3a)	3b)	3c) CAS#:	540-84-1		CAS#:	71-43-2		CAS#:	100-41-4	
Emission source type	Emission source ID number	3d) Pollutant name:	2,2,4-TMP		Pollutant name:	Benzene		Pollutant name:	Ethyl Benzene	
		3e) Potential		3f) optional  Actual tons per yr	Potential		Actual tons per yr	Potential		Actual tons per yr
		lbs per hr	tpy unrestricted		lbs per hr	tpy unrestricted		lbs per hr	tpy unrestricted	
TK	TK 004	0.02	0.11		0.03	0.12		3.04E-03	0.01	
TK	TK 006	0.20	4.88E-02		0.22	5.49E-02		0.02	6.10E-03	
TK	TK 008	1.60	0.09		1.80	0.10		0.20	0.01	
TK	TK 009	1.60	0.09		1.80	0.10		0.20	0.01	
EU	TK 011	1.60	0.09		1.80	0.10		0.20	0.01	
TK	TK 012	0.22	0.05		0.25	0.05		0.03	5.66E-03	
TK	TK 018	2.97E-03	0.01		3.34E-03	0.01		3.72E-04	1.63E-03	
EU	EU 001	0.08	0.35		0.09	0.40		0.01	0.04	
FS	FS 001									

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	5.32	0.83	0.28	5.98	0.93	0.31	0.66	0.10	0.03

**Capped Permit facility emissions summary**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2

1a) AQ Facility ID number: 01300017 1b) Agency Interest ID number: 586

2) Facility name: Magellan Pipeline Co LP-Mankato Terminal

3a)	3b)	3c) CAS#:	110-54-3	CAS#:	108-88-3	CAS#:	1330-20-7
Emission source type	Emission source ID number	3d) Pollutant name:	Hexane	Pollutant name:	Toluene	Pollutant name:	Total Xylenes
		3e) Potential	3f) optional	Potential		Potential	
		lbs per hr	tpy unrestricted	Actual tons per yr	lbs per hr	tpy unrestricted	Actual tons per yr
TK	TK 004	0.05	0.21		0.04	0.17	
TK	TK 006	0.39	0.10		0.32	0.08	
TK	TK 008	3.19	0.17		2.60	0.14	
TK	TK 009	3.19	0.17		2.60	0.14	
EU	TK 011	3.19	0.17		2.60	0.14	
TK	TK 012	0.44	0.09		0.36	0.07	
TK	TK 018	5.94E-03	0.03		4.83E-03	0.02	
EU	EU 001	0.16	0.70		0.13	0.57	
FS	FS 001	8.41E-04	3.68E-03		6.84E-04	2.99E-03	

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	10.63	1.66	0.56	8.64	1.35	0.45	3.32	0.52	0.17





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

AQ Facility ID No.: 01300017

AQ File No.: 586

Facility Name: Magellan Pipeline Co LP-Mankato Terminal

## 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 section 183(e). Go to question 5c.
- ☐ No, my facility is not subject to consumer and commercial products regulation under section 183(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.**

**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: 01300017 Agency Interest ID number: 586Facility name: Magellan Pipeline Co LP-Mankato Terminal

- 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 YYYYYY (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 WWWWWW
- ☐ Industrial, Commercial, and Institutional Boilers, 40 CFR § 63 Subpart JJJJJJ
- ☐ Iron and Steel Foundries Area Sources, 40 CFR § 63 Subpart ZZZZZZ
- ☐ 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 CCCCCC
- ☐ 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 EEEEEEE (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 FFFFFFFF (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, YYYYYY, SSSSSS, EEEEE, EEEEE, 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	119937	3,3-Dimethyl benzidine
60355	Acetamide	79447	Dimethyl carbamoyl chloride
75058	Acetonitrile	68122	Dimethyl formamide
98862	Acetophenone	57147	1,1 Dimethyl hydrazine
53963	2-Acetylaminofluorene	131113	Dimethyl phthalate
107028	Acrolein	77781	Dimethyl Sulfate
79061	Acrylamide	534521	4,6-Dinitro-o-cresol, and salts
79107	Acrylic acid	51285	2,4-Dinitrophenol
107131	Acrylonitrile	121142	2,4-Dinitrotoluene
107051	Allyl chloride	123911	1,4-Dioxane (1,4-Diethyleneoxide)
92671	4-Aminobiphenyl	122667	1,2-Diphenylhydrazine
62533	Aniline		
90040	o-Anisidine	106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)
1332214	Asbestos	106887	1,2-Epoxybutane
		140885	Ethyl acrylate
71432	Benzene	100414	Ethyl benzene
92875	Benzidine	51796	Ethyl carbamate (Urethane)
98077	Benzotrichloride	75003	Ethyl chloride (Chloroethane)
100447	Benzyl chloride	106934	Ethylene dibromide (Dibromoethane)
92524	Biphenyl	107062	Ethylene dichloride (1,2- Dichloroethane)
117817	Bis (2-ethylhexyl) phthalate (DEHP)	107211	Ethylene glycol
542881	Bis (chloromethyl) ether	151564	Ethylene imine (Aziridine)
75252	Bromoform	75218	Ethylene oxide
106945	1-Bromopropane (n-propyl bromide)	96457	Ethylene thiourea
106990	1,3-Butadiene	75343	Ethylidene dichloride (1,1-Dichloroethane)
156627	Calcium cyanamide	50000	Formaldehyde
133062	Captan		
63252	Carbaryl	76448	Heptachlor
75150	Carbon disulfide	118741	Hexachlorobenzene
56235	Carbon tetrachloride	87683	Hexachlorobutadiene
463581	Carbonyl sulfide	77474	Hexachlorocyclopentadiene
120809	Catechol	67721	Hexachloroethane
133904	Chloramben	822060	Hexamethylene-1,6-diisocyanate
57749	Chlordane	680319	Hexamethylphosphoramide
7782505	Chlorine	110543	Hexane
79118	Chloroacetic acid	302012	Hydrazine
532274	2-Chloroacetophenone	7647010	Hydrochloric acid
108907	Chlorobenzene	7664393	Hydrogen flouride (hydrofluoric acid)
510156	Chlorobenzilate	123319	Hydroquinone
67663	Chloroform		
107302	Chloromethyl methyl ether	78591	Isophorone
126998	Chloroprene		
1319773	Cresols/Cresylic acid (isomers and mixture)	58899	Lindane (all isomers)
95487	O-Cresol		
108394	m-Cresol	108316	Maleic anhydride
106445	p-Cresol	67561	Methanol
98828	Cumene	72435	Methoxychlor
		74839	Methyl bromide (Bromomethane)
94757	2,4-D, salts and esters	74873	Methyl chloride (Chloromethane)
3547044	DDE	71556	Methyl chloroform (1,1,1-Trichloroethane)
334883	Diazomethane	60344	Methyl hydrazine
132649	Dibenzofurans	74884	Methyl iodide (Iodomethane)
96128	1,2-Dibromo-3-chloropropane	108101	Methyl isobutyl ketone (Hexone)
84742	Dibutylphthalate	624839	Methyl isocyanate
106467	1,4-Dichlorobenzene(p)	80626	Methyl methacrylate
91941	3,3'-Dichlorobenzidine	1634044	Methyl tert butyl ether
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)	101144	4,4-Methylene bis (2-chloroaniline)
542756	1,3-Dichloropropene	75092	Methylene chloride (Dichloromethane)
62737	Dichlorvos	101688	Methylene diphenyl diisocyanate (MDI)
111422	Diethanolamine	101779	4,4'-methylenedianiline
121697	N,N-Diethyl aniline (N,N- Dimethylaniline)		
64675	Diethyl sulfate		
119904	3,3-Dimethoxybenzidine		
60117	Dimethyl aminoazobenzene		



**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 (aroclor)
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) <sup>5</sup>
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 <sup>1</sup>
0	Lead compounds
0	Manganese compounds
0	Mercury compounds
0	Mineral fibers <sup>2</sup>
0	Nickel compounds
0	Polycyclic organic matter <sup>3</sup>
0	Radionuclides <sup>4</sup>
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.

<sup>1</sup> Glycol ethers include mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>-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 not include ethylene glycol monobutyl ether (EGBE, 2-Butoxyethanol, CAS Number 111-76-2).

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

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

<sup>4</sup> A type of atom which spontaneously undergoes radioactive decay.

<sup>5</sup> 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/Standards	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 norbornene 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	EEEEEE	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	WWWWW	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 <sup>TM</sup> 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

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

1a) AQ Facility ID No.: 01300017 1b) Agency Interest ID No.: 586

2) Facility Name: Magellan Pipeline Co LP-Mankato Terminal

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: Loading Rack w/Vapor Combustor Control-Gasoline Loading  
Emission Unit Number (EQUI xxx): EU001 / EQUI 001  
Stack/Vent Number (STRU xxx): SV001 / STRU 1  
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: Bulk Gasoline Terminals (Subpart XX)

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: 01300017-008

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
<b>Small Industrial-Commercial-Institutional Steam Generators &gt;10 MMBtu but &lt;100 MMBtu*</b>	<b>Dc</b>	<b>After: 06/09/1989</b>
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
<b>Asphalt Concrete Plants</b>	<b>I</b>	<b>After: 06/11/1973</b>
Petroleum Refineries	J, Ja	After: 06/11/1973
<b>Storage Vessels for Petroleum Liquids</b>	<b>K,Ka</b>	<b>After: 06/11/1973</b>
<b>Volatile Organic Liquid Storage Vessels (Including Petroleum Liquids)*</b>	<b>Kb</b>	<b>After: 07/23/1984</b>
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
<b>Grain Elevators</b>	<b>DD</b>	<b>After: 08/03/1978</b>
<b>Surface Coating of Metal Furniture</b>	<b>EE</b>	<b>After: 11/28/1980</b>
<b>Stationary Gas Turbines</b>	<b>GG</b>	<b>After: 10/03/1977</b>
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
<b>Industrial Surface Coating: Large Appliances</b>	<b>SS</b>	<b>After: 12/24/1980</b>
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	VW	After: 11/26/1980
<b>Bulk Gasoline Terminals</b>	<b>XX</b>	<b>After: 12/17/1980</b>
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
<b>Petroleum Dry Cleaners*</b>	<b>JJJ</b>	<b>After: 12/14/1982</b>
Onshore Natural Gas Processing: VOC Equipment Leaks and SO <sub>2</sub> 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
<b>Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines</b>	<b>TTT</b>	<b>After: 01/08/1986</b>
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
<b>Stationary Compression Ignition Internal Combustion Engines*</b>	<b>IIII</b>	<b>After: 07/11/2005</b>
<b>Stationary Spark Ignition Internal Combustion Engines*</b>	<b>JJJJ</b>	<b>After: 06/12/2006</b>
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**

<b>Group I:</b>	<b>Chemical</b>	<b>CAS Number</b>
	CFC13-Trichlorofluoromethane (CFC-11)	75-69-4
	CF2Cl2-Dichlorodifluoromethane (CFC-12)	75-71-8
	C2F3Cl2-Trichlorotrifluoroethane (CFC-113)	76-13-1
	C2F4Cl3-Dichlorotetrafluoroethane (CFC-114)	76-14-2
	C2F5Cl-Monochloropentafluoroethane (CFC-115)	76-15-3
	All isomers of the above chemicals	
<b>Group II:</b>	<b>Chemical</b>	<b>CAS Number</b>
	CF2ClBr-Bromochlorodifluoromethane (Halon-1211)	421-01-2
	CF3Br-Bromotrifluoroethane (Halon-1301)	75-63-8
	C2F4Br2-Dibromotetrafluoroethane (Halon-2402)	124-73-2
	All isomers of the above chemicals	
<b>Group III:</b>	<b>Chemical</b>	<b>CAS Number</b>
	CF3Cl-Chlorotrifluoromethane (CFC-13)	75-72-9
	C2FC15 (CFC-111)	954-56-3
	C2F2Cl4 (CFC-112)	76-12-0
	C3FC17 (CFC-211)	422-78-6
	C3F2Cl6 (CFC-212)	3182-26-1
	C3F3Cl5 (CFC-213)	2354-06-5
	C3F4Cl4 (CFC-214)	29255-31-0
	C3F5Cl3 (CFC-215)	4259-43-2
	C3F6Cl2 (CFC-216)	661-97-2
	C3F7Cl (CFC-217)	422-86-6
	All isomers of the above chemicals	
<b>Group IV:</b>	<b>Chemical</b>	<b>CAS Number</b>
	CCl-Carbon Tetrachloride	56-23-5
<b>Group V:</b>	<b>Chemical</b>	<b>CAS Number</b>
	C2H3Cl3-1,1,1 Trichloroethane (Methyl chloroform)	71-55-6
	All isomers of the above chemical except 1,1,2-trichloroethane	79-00-5
<b>Group VI:</b>	<b>Chemical</b>	<b>CAS Number</b>
	CH3BR - Bromomethane (Methyl Bromide)	
<b>Group VII:</b>	<b>Chemical</b>	<b>CAS Number</b>
	CHFBR2	
	CHF2Br (HBFC-22B1)	
	CH2FBr	
	C2HFBr4	
	C2HF2Br3	
	C2HF3Br2	
	C2HF4Br	
	C2H2FBr3	
	C2H2F2Br2	
	C2H2F3Br	
	C2H2FBr2	
	C2H3F2Br	
	C2H4FBr	
	C3HFBr6	
	C3HF2Br5	

**TABLE E (continued)****Group VII:****Chemical****CAS Number**

C<sub>3</sub>HF<sub>3</sub>Br<sub>4</sub>  
C<sub>3</sub>HF<sub>4</sub>Br<sub>3</sub>  
C<sub>3</sub>HF<sub>5</sub>Br<sub>2</sub>  
C<sub>3</sub>HF<sub>6</sub>Br  
C<sub>3</sub>H<sub>2</sub>FBR<sub>5</sub>  
C<sub>3</sub>H<sub>2</sub>F<sub>2</sub>BR<sub>4</sub>  
C<sub>3</sub>H<sub>2</sub>F<sub>3</sub>Br<sub>3</sub>  
C<sub>3</sub>H<sub>2</sub>F<sub>4</sub>Br<sub>2</sub>  
C<sub>3</sub>H<sub>2</sub>F<sub>5</sub>BR  
C<sub>3</sub>H<sub>3</sub>FBR<sub>4</sub>  
C<sub>3</sub>H<sub>3</sub>F<sub>2</sub>Br<sub>3</sub>  
C<sub>3</sub>H<sub>3</sub>F<sub>3</sub>Br<sub>2</sub>  
C<sub>3</sub>H<sub>3</sub>F<sub>4</sub>Br  
C<sub>3</sub>H<sub>4</sub>FBr<sub>3</sub>  
C<sub>3</sub>H<sub>4</sub>F<sub>2</sub>Br<sub>2</sub>  
C<sub>3</sub>H<sub>4</sub>F<sub>3</sub>Br  
C<sub>3</sub>H<sub>5</sub>FBr<sub>2</sub>  
C<sub>3</sub>H<sub>5</sub>F<sub>2</sub>Br  
C<sub>3</sub>H<sub>6</sub>FB



**TABLE F**  
**CLASS II OZONE DEPLETING CHEMICALS**

	<b>Chemical</b>	<b>CAS Number</b>
HCFC-21	CHFC1 <sub>2</sub> -dichlorofluoromethane	75-43-4
HCFC-22	CHF <sub>2</sub> Cl -chlorodifluoromethane	75-45-6
HCFC-31	CH <sub>2</sub> FC1 -chlorofluoromethane	593-70-4
HCFC-121	C <sub>2</sub> HFC1 <sub>4</sub> -tetrachlorofluoroethane	130879-71-9
HCFC-121	C <sub>2</sub> HFC1 <sub>4</sub> -tetrachlorofluoroethane	134237-32-4
HCFC-121	C <sub>2</sub> HFC1 <sub>4</sub> -1,1,1,2-tetrachloro-2-fluoroethane	354-11-0
HCFC-121	C <sub>2</sub> HFC1 <sub>4</sub> -1,1,2,2-tetrachloro-1-fluoroethane	354-14-3
HCFC-122	C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub> -trichlorodifluoroethane	41834-16-6
HCFC-122	C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub> -trichloro-1,1-difluoroethane	55949-46-7
HCFC-122	C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub> -1,2,2-trichloro-1,1-difluoroethane	354-21-2
HCFC-122	C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub> -1,2,2-trichloro-1,2-difluoroethane	354-15-4
HCFC-122	C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub> -1,1,1-trichloro-2,2-difluoroethane	354-12-1
HCFC-122	C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub> -1,1,2-trichloro-2,2-difluoroethane	NA
HCFC-123	C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub> -dichlorotrifluoroethane	34077-87-7
HCFC-123	C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub> -dichlorotrifluoroethane	134237-33-5
HCFC-123	C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub> -dichloro-1,1,2-trifluoroethane	90454-18-5
HCFC-123	C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub> -2,2-dichloro-1,1,1-trifluoroethane	306-83-2
HCFC-123a	C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub> -1,2-dichloro-1,1,2-trifluoroethane	354-23-4
HCFC-123b	C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub> -1,1-dichloro-1,2,2-trifluoroethane	812-04-4
HCFC-123	C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub> -2,2-dichloro-1,1,2-trifluoroethane	NA
HCFC-124	C <sub>2</sub> HF <sub>4</sub> Cl -chlorotetrafluoroethane	63938-10-3
HCFC-124	C <sub>2</sub> HF <sub>4</sub> Cl -2-chloro-1,1,1,2-tetrafluoroethane	2837-89-0
HCFC-124	C <sub>2</sub> HF <sub>4</sub> Cl -1-chloro-1,1,2,2-tetrafluoroethane	354-25-6
HCFC-131	C <sub>2</sub> H <sub>2</sub> FC1 <sub>3</sub> -trichlorofluoroethane	27154-33-2
HCFC-131	C <sub>2</sub> H <sub>2</sub> FC1 <sub>3</sub> -trichlorofluoroethane	134237-34-6
HCFC-131	C <sub>2</sub> H <sub>2</sub> FC1 <sub>3</sub> -1,1,2-trichloro-1 (or 2)-fluoroethane	90134-98-8
HCFC-131b	C <sub>2</sub> H <sub>2</sub> FC1 <sub>3</sub> -1,1,1-trichloro-2-fluoroethane	2366-36-1
HCFC-131a	C <sub>2</sub> H <sub>2</sub> FC1 <sub>3</sub> -1,1,2-trichloro-1-fluoroethane	811-95-0
HCFC-131	C <sub>2</sub> H <sub>2</sub> FC1 <sub>3</sub> -1,1,2-trichloro-2-fluoroethane	359-28-4
HCFC-132	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> -dichlorodifluoroethane	25915-78-0
HCFC-132	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> -dichloro-1,1-difluoroethane	55494-45-6
HCFC-132	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> -1,1-dichlorodifluoroethane	31153-51-2
HCFC-132	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> -1,2-dichloro-1,2-difluoroethane	33579-37-2
HCFC-132	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> -1,2-dichloro-1,2-difluoroethane	33489-30-4
HCFC-132c	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> -1,1-dichloro-1,2-difluoroethane	1842-05-3
HCFC-132b	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> -1,2-dichloro-1,1-difluoroethane	1649-08-7
HCFC-132a	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> -1,1-dichloro-2,2-difluoroethane	471-43-2
HCFC-132	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> -1,2-dichloro-1,2-difluoroethane	431-06-1
HCFC-133	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl -chlorotrifluoroethane	13330-45-6
HCFC-133	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl -1-chloro-1,2,2-trifluoroethane	431-07-2
HCFC-133b	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl -1-chloro-1,1,2-trifluoroethane	421-04-5
HCFC-133a	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl -2-chloro-1,1,1-trifluoroethane	75-88-7
HCFC-141	C <sub>2</sub> H <sub>3</sub> FC1 <sub>2</sub> -dichlorofluoroethane	25167-88-8
HCFC-141b	C <sub>2</sub> H <sub>3</sub> FC1 <sub>2</sub> -1,1-dichloro-1-fluoroethane	1717-00-6
HCFC-141	C <sub>2</sub> H <sub>3</sub> FC1 <sub>2</sub> -1,2-dichloro-1-fluoroethane	430-57-9
HCFC-141a	C <sub>2</sub> H <sub>3</sub> FC1 <sub>2</sub> -1,1-dichloro-2-fluoroethane	430-53-5
HCFC-142	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl -chlorodifluoroethane	25497-29-4
HCFC-142	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl -chloro-1,1-difluoroethane	55949-44-5
HCFC-142a	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl -2-chloro-1,1-difluoroethane	338-65-8
HCFC-142b	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl -1-chloro-1,2-difluoroethane	338-64-7
HCFC-142	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl -1-chloro-1,1-difluoroethane	75-68-3
HCFC-221	C <sub>3</sub> HFC1 <sub>6</sub> -hexachlorofluoropropane	29470-94-8

**TABLE F (continued)**

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

**TABLE F (continued)**

	<b>Chemical</b>	<b>CAS Number</b>
HCFC-225da	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub> -1,2-dichloro-1,1,3,3,3-pentafluoropropane	431-86-7
HCFC-225ca	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub> -3,3-dichloro-1,1,1,2,2-pentafluoropropane	422-56-0
HCFC-225ba	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub> -2,3-dichloro-1,1,1,2,3-pentafluoropropane	422-48-0
HCFC-225	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub> -1,2-dichloro-1,1,2,3,3-pentafluoropropane	422-44-6
HCFC-226	C <sub>3</sub> HF <sub>6</sub> Cl -chlorohexafluoropropane	28987-04-4
HCFC-226	C <sub>3</sub> HF <sub>6</sub> Cl -chlorohexafluoropropane	134308-72-8
HCFC-226ba	C <sub>3</sub> HF <sub>6</sub> Cl -2-chloro-1,1,1,2,3,3-hexafluoropropane	51346-64-6
HCFC-226da	C <sub>3</sub> HF <sub>6</sub> Cl -2-chloro-1,1,1,3,3,3-hexafluoropropane	431-87-8
HCFC-226ca	C <sub>3</sub> HF <sub>6</sub> Cl -3-chloro-1,1,1,2,2,3-hexafluoropropane	422-57-1
HCFC-226cb	C <sub>3</sub> HF <sub>6</sub> Cl -1-chloro-1,1,2,2,3,3-hexafluoropropane	422-55-9
HCFC-226ea	C <sub>3</sub> HF <sub>6</sub> Cl -1-chloro-1,1,2,3,3,3-hexafluoropropane	359-58-0
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -pentachlorofluoropropane	NA
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -pentachlorofluoropropane	134190-48-0
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -1,1,1,2,3-pentachloro-2-fluoropropane	421-94-3
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -1,1,2,3,3-pentachloro-2-fluoropropane	NA
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -1,1,1,3,3-pentachloro-3-fluoropropane	NA
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -1,1,2,2,3-pentachloro-1-fluoropropane	NA
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -1,1,1,2,2-pentachloro-3-fluoropropane	NA
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -1,1,1,2,3-pentachloro-3-fluoropropane	NA
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -1,1,1,3,3-pentachloro-2-fluoropropane	NA
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -1,1,2,2,3-pentachloro-3-fluoropropane	NA
HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> -1,1,2,3,3-pentachloro-1-fluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -tetrachlorodifluoropropane	127564-82-3
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -tetrachlorodifluoropropane	134237-39-1
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,2,3,3-tetrachloro-1,1-difluoropropane	67879-59-8
HCFC-232ca	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,3,3-tetrachloro-2,2-difluoropropane	1112-14-7
HCFC-232cb	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,1,3-tetrachloro-2,2-difluoropropane	677-54-3
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,1,3-tetrachloro-3,3-difluoropropane	460-89-9
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,1,3-tetrachloro-2,3-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,1,2-tetrachloro-2,3-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,1,2-tetrachloro-3,3-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,3,3-tetrachloro-1,2-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,2,3-tetrachloro-1,2-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,2,3-tetrachloro-1,3-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,2,3,3-tetrachloro-1,2-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,2,2,3-tetrachloro-1,1-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,2,2,3-tetrachloro-1,3-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,3,3-tetrachloro-1,3-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,2,2-tetrachloro-3,3-difluoropropane	NA
HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> -1,1,2,2-tetrachloro-1,3-difluoropropane	NA
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -trichlorotrifluoropropane	61623-04-9
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -trichlorotrifluoropropane	134237-40-4
HCFC-233ca	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -1,1,3-trichloro-2,2,3-trifluoropropane	131221-36-8
HCFC-233cc	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -1,1,1-trichloro-2,2,3-trifluoropropane	131211-71-7
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -1,1,3-trichloro-1,2,3-trifluoropropane	54377-32-1
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -1,1,1-trichloro-2,3,3-trifluoropropane	54306-56-8
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -1,1,2-trichloro-2,3,3-trifluoropropane	13058-99-6
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -1,1,1-trichloro-3,3,3-trifluoropropane	7125-84-0
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -2,2,3-trichloro-1,1,1-trifluoropropane	7125-83-9
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -2,3,3-trichloro-1,1,1-trifluoropropane	431-51-6
HCFC-233cb	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -1,1,3-trichloro-1,2,2-trifluoropropane	421-99-8
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -1,2,3-trichloro-1,1,2-trifluoropropane	421-95-4
HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> -1,1,3-trichloro-1,3,3-trifluoropropane	333-26-6

TABLE F (continued)

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

TABLE F (continued)

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

TABLE F (continued)

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



TABLE F (continued)

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

**Facility Information—Minnesota State Air Quality (AQ) Rules**

AQ Facility ID number: 01300017 Agency Interest ID number: 586

Facility name: Magellan Pipeline Co LP-Mankato Terminal

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 7011.9927

\* 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.

**Instructions on page 2****1a)** AQ Facility ID number: 01300017 **1b)** Agency Interest ID number: \_\_\_\_\_**2)** Facility name: Magellan Pipeline Co LP-Mankato Terminal**3)** Check and describe insignificant activities

	Rule citation	Description of activities at the facility
<input type="checkbox"/>	7007.1300, subp. 3(A)	
<input type="checkbox"/>	7007.1300, subp. 3(B)(1)	
<input type="checkbox"/>	7007.1300, subp. 3(B)(2)	
<input type="checkbox"/>	7007.1300, subp. 3(C)(1)	
<input type="checkbox"/>	7007.1300, subp. 3(C)(2)	
<input type="checkbox"/>	7007.1300, subp. 3(D)	
<input type="checkbox"/>	7007.1300, subp. 3(E)	
<input checked="" type="checkbox"/>	7007.1300, subp. 3(F)	10 fuel additive storage tanks (208-20, 208-21, 208-120, 208-130, 208-132, 208-133, 208-134, 208-160, 208-250, 208-61), butane unloading, ethanol unloading and bio-diesel unloading, 13 fixed roof product storage tanks (582, 583, 584, 586, 1323, 1382, 6008, 6009, 6010, 6011, 6012, 183, 186), and 2 fixed roof water storage tanks (340 and 341).
<input type="checkbox"/>	7007.1300, subp. 3(G)	
<input type="checkbox"/>	7007.1300, subp. 4	
<input type="checkbox"/>	7008.4100	
<input type="checkbox"/>	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.

1a) AQ Facility ID number: 01300017 1b) Agency Interest ID number: 586  
2) Facility Name: Magellan Pipeline Co LP-Mankato Terminal

**Instructions:** An owner or operator may fill in this form in replacement of a highlighted copy of the New Source Performance Standard (NSPS) located in 40 CFR 60, Subpart A — General Provisions.

NSPS Provision	Check if applicable
<b>Section 60.1 Applicability.</b>	
(a) Except as provided in subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.	<input checked="" type="checkbox"/>
(b) Any new or revised standard of performance promulgated pursuant to section 111(b) of the Act shall apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of such new or revised standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.	<input checked="" type="checkbox"/>
(c) In addition to complying with the provisions of this part, the owner or operator of an affected facility may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to Title V of the Clean Air Act (Act) as amended November 15, 1990 (42 U.S.C. 7661). For more information about obtaining an operating permit see part 70 of this chapter.	<input checked="" type="checkbox"/>
<b>Section 60.2 Definitions (reference rule for additional detail)</b>	
<b>Section 60.3 Units and abbreviations (reference rule for additional detail)</b>	
<b>Section 60.4 Address (abbreviated for facilities located in Minnesota)</b>	
(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted in duplicate to the appropriate Regional Office of the U.S. Environmental Protection Agency to the attention of the Director of the Division indicated in the following list of EPA Regional Offices.  Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, IL 60604-3590.	<input checked="" type="checkbox"/>
(b) Section 111(c) directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards of performance for new stationary sources located in such State. All information required to be submitted to EPA under paragraph (a) of this section, must also be submitted to the appropriate State Agency of any State to which this authority has been delegated (provided, that each specific delegation may except sources from a certain Federal or State reporting requirement). The appropriate mailing address for those States whose delegation request has been approved is as follows:	<input checked="" type="checkbox"/>
(25) Minnesota Pollution Control Agency, Division of Air Quality, 520 Lafayette Road, St. Paul, MN 55155.	<input checked="" type="checkbox"/>
<b>Section 60.5 Determination of construction or modification.</b>	
(a) When requested to do so by an owner or operator, the Administrator will make a determination of whether action taken or intended to be taken by such owner or operator constitutes construction (including reconstruction) or modification or the commencement thereof within the meaning of this part.	<input checked="" type="checkbox"/>
(b) The Administrator will respond to any request for a determination under paragraph (a) of this section within 30 days of receipt of such request.	<input checked="" type="checkbox"/>
<b>Section 60.6 Review of plans.</b>	
(a) When requested to do so by an owner or operator, the Administrator will review plans for construction or modification for the purpose of providing technical advice to the owner or operator.	<input checked="" type="checkbox"/>

NSPS Provision	Check if applicable
(b)(1) A separate request shall be submitted for each construction or modification project.	<input checked="" type="checkbox"/>
(2) Each request shall identify the location of such project, and be accompanied by technical information describing the proposed nature, size, design, and method of operation of each affected facility involved in such project, including information on any equipment to be used for measurement or control of emissions.	<input checked="" type="checkbox"/>
(c) Neither a request for plans review nor advice furnished by the Administrator in response to such request shall (1) relieve an owner or operator of legal responsibility for compliance with any provision of this part or of any applicable State or local requirement, or (2) prevent the Administrator from implementing or enforcing any provision of this part or taking any other action authorized by the Act.	<input checked="" type="checkbox"/>
<b>Section 60.7 Notification and record keeping.</b>	
(a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification or, if acceptable to both the Administrator and the owner or operator of a source, electronic notification, as follows:	<input checked="" type="checkbox"/>
(1) A notification of the date construction (or reconstruction as defined under § 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.	<input checked="" type="checkbox"/>
(2) [Reserved]	
(3) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.	<input checked="" type="checkbox"/>
(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in § 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.	<input checked="" type="checkbox"/>
(5) A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with § 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.	<input type="checkbox"/>
(6) A notification of the anticipated date for conducting the opacity observations required by § 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.	<input type="checkbox"/>
(7) A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by § 60.8 in lieu of Method 9 observation data as allowed by § 60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.	<input type="checkbox"/>
(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.	<input checked="" type="checkbox"/>
(c) Each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:	<input type="checkbox"/>
(1) The magnitude of excess emissions computed in accordance with § 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.	<input type="checkbox"/>
(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.	<input type="checkbox"/>
(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.	<input type="checkbox"/>
(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.	<input type="checkbox"/>
(d) The summary report form shall contain the information and be in the format shown in figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.	<input type="checkbox"/>

## NSPS Provision

Check if applicable

- (1) If the total duration of excess emissions for the reporting period is less than one percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than five percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in § 60.7(c) need not be submitted unless requested by the Administrator.
- (2) If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is five percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in § 60.7(c) shall both be submitted.

**Figure 1—SAMPLE Summary Report—Gaseous and Opacity Excess Emission and Monitoring System Performance**

Pollutant (Circle One—SO<sub>2</sub>/NO<sub>x</sub>/TRS/H<sub>2</sub>S/CO/Opacity)

Reporting period dates: From \_\_\_\_\_ to \_\_\_\_\_

Company:

Emission Limitation

Address:

Monitor Manufacturer and Model No.

Date of Latest CMS Certification or Audit

Process Unit(s) Description: Total source operating time in reporting period 1

Emission data Summary <sup>1</sup>	CMS performance summary <sup>1</sup>
1. Duration of excess emissions in reporting period due to:	1. CMS downtime in reporting period due to:
a. Startup/shutdown	a. Monitor equipment malfunctions
b. Control equipment problems	b. Non-Monitor equipment malfunctions
c. Process problems	c. Quality assurance calibration
d. Other known causes	d. Other known causes
e. Unknown causes	e. Unknown causes
2. Total duration of excess emission	2. Total CMS Downtime
3. Total duration of excess emissions × (100) [Total source operating time], % <sup>2</sup>	3. [Total CMS Downtime] × (100) [Total source operating time], % <sup>2</sup>

<sup>1</sup> For opacity, record all times in minutes. For gases, record all times in hours.

<sup>2</sup> For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in § 60.7(c) shall be submitted.

On a separate page, describe any changes since last quarter in CMS, process or controls. I certify that the information contained in this report is true, accurate, and complete.

Name  
Signature  
Title  
Date

## NSPS Provision

Check if applicable

- (e)(1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:
- (i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;
- (ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the applicable standard; and
- (iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.



NSPS Provision	Check if applicable
(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.	<input type="checkbox"/>
(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.	<input type="checkbox"/>
(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows:	<input checked="" type="checkbox"/>
(1) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.	<input type="checkbox"/>
(2) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.	<input type="checkbox"/>
(3) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (f) of this section, if the Administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.	<input checked="" type="checkbox"/>
(g) If notification substantially similar to that in paragraph (a) of this section is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of paragraph (a) of this section.	<input checked="" type="checkbox"/>
(h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.	<input checked="" type="checkbox"/>
<b>Section 60.8 Performance Tests</b>	
(a) Except as specified in paragraphs (a)(1), (a)(2), (a)(3), and (a)(4) of this section, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, or at such other times specified by this part, and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).	<input checked="" type="checkbox"/>
(1) If a force majeure is about to occur, occurs, or has occurred for which the affected owner or operator intends to assert a claim of force majeure, the owner or operator shall notify the Administrator, in writing as soon as practicable following the date the owner or operator first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall occur as soon as practicable.	<input checked="" type="checkbox"/>

NSPS Provision	Check if applicable
(2) The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the owner or operator proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure occurs.	<input checked="" type="checkbox"/>
(3) The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Administrator. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an extension as soon as practicable.	<input checked="" type="checkbox"/>
(4) Until an extension of the performance test deadline has been approved by the Administrator under paragraphs (a)(1), (2), and (3) of this section, the owner or operator of the affected facility remains strictly subject to the requirements of this part.	<input checked="" type="checkbox"/>
(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.	<input checked="" type="checkbox"/>
(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.	<input checked="" type="checkbox"/>
(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Administrator (or delegated State or local agency) as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator (or delegated State or local agency) by mutual agreement.	<input checked="" type="checkbox"/>
(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:	<input checked="" type="checkbox"/>
(1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.	<input checked="" type="checkbox"/>
(2) Safe sampling platform(s).	<input checked="" type="checkbox"/>
(3) Safe access to sampling platform(s).	<input checked="" type="checkbox"/>
(4) Utilities for sampling and testing equipment.	<input checked="" type="checkbox"/>
(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method.	<input checked="" type="checkbox"/>
(1) Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.	<input checked="" type="checkbox"/>
(2) Contents of report (electronic or paper submitted copy). Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, the report for a performance test shall include the elements identified in paragraphs (f)(2)(i) through (vi) of this section.	<input checked="" type="checkbox"/>

NSPS Provision	Check if applicable
(i) General identification information for the facility including a mailing address, the physical address, the owner or operator or responsible official (where applicable) and his/her email address, and the appropriate Federal Registry System (FRS) number for the facility.	<input checked="" type="checkbox"/>
(ii) Purpose of the test including the applicable regulation(s) requiring the test, the pollutant(s) and other parameters being measured, the applicable emission standard and any process parameter component, and a brief process description.	<input checked="" type="checkbox"/>
(iii) Description of the emission unit tested including fuel burned, control devices, and vent characteristics; the appropriate source classification code (SCC); the permitted maximum process rate (where applicable); and the sampling location.	<input checked="" type="checkbox"/>
(iv) Description of sampling and analysis procedures used and any modifications to standard procedures, quality assurance procedures and results, record of process operating conditions that demonstrate the applicable test conditions are met, and values for any operating parameters for which limits were being set during the test.	<input checked="" type="checkbox"/>
(v) Where a test method requires you record or report, the following shall be included: Record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, chain-of-custody documentation, and example calculations for reported results.	<input type="checkbox"/>
(vi) Identification of the company conducting the performance test including the primary office address, telephone number, and the contact for this test program including his/her email address.	<input checked="" type="checkbox"/>
(g) The performance testing shall include a test method performance audit (PA) during the performance test. <i>(abridged – See rule for additional detail)</i>	<input checked="" type="checkbox"/>
(1) The source owner, operator, or representative of the tested facility shall obtain an audit sample, if commercially available, from an AASP for each test method used for regulatory compliance purposes. <i>(abridged – See rule for additional detail)</i>	<input checked="" type="checkbox"/>
(2) An AASP shall have and shall prepare, analyze, and report the true value of audit samples in accordance with a written technical criteria document that describes how audit samples will be prepared and distributed in a manner that will ensure the integrity of the audit sample program. An acceptable technical criteria document shall contain standard operating procedures for all of the following operations:	<input checked="" type="checkbox"/>
(i) Preparing the sample;	<input checked="" type="checkbox"/>
(ii) Confirming the true concentration of the sample;	<input checked="" type="checkbox"/>
(iii) Defining the acceptance limits for the results from a well qualified tester. This procedure must use well established statistical methods to analyze historical results from well qualified testers. The acceptance limits shall be set so that there is 95 percent confidence that 90 percent of well qualified labs will produce future results that are within the acceptance limit range.	<input checked="" type="checkbox"/>
(iv) Providing the opportunity for the compliance authority to comment on the selected concentration level for an audit sample;	<input checked="" type="checkbox"/>
(v) Distributing the sample to the user in a manner that guarantees that the true value of the sample is unknown to the user;	<input checked="" type="checkbox"/>
(vi) Recording the measured concentration reported by the user and determining if the measured value is within acceptable limits;	<input checked="" type="checkbox"/>
(vii) The AASP shall report the results from each audit sample in a timely manner to the compliance authority and then to the source owner, operator, or representative. The AASP shall make both reports at the same time and in the same manner or shall report to the compliance authority first and then report to the source owner, operator, or representative. The results shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, and whether the testing company passed or failed the audit. The AASP shall report the true value of the audit sample to the compliance authority. The AASP may report the true value to the source owner, operator, or representative if the AASP's operating plan ensures that no laboratory will receive the same audit sample twice.	<input checked="" type="checkbox"/>
(viii) Evaluating the acceptance limits of samples at least once every two years to determine in cooperation with the voluntary consensus standard body if they should be changed;	<input checked="" type="checkbox"/>

NSPS Provision	Check if applicable
(ix) Maintaining a database, accessible to the compliance authorities, of results from the audit that shall include the name of the facility tested, the date on which the compliance test was conducted, the name of the company performing the sample collection, the name of the company that analyzed the compliance samples including the audit sample, the measured result for the audit sample, the true value of the audit sample, the acceptance range for the measured value, and whether the testing company passed or failed the audit.	<input checked="" type="checkbox"/>
(3) The accrediting body shall have a written technical criteria document that describes how it will ensure that the AASP is operating in accordance with the AASP technical criteria document that describes how audit samples are to be prepared and distributed. This document shall contain standard operating procedures for all of the following operations:	<input checked="" type="checkbox"/>
(i) Checking audit samples to confirm their true value as reported by the AASP;	<input checked="" type="checkbox"/>
(ii) Performing technical systems audits of the AASP's facilities and operating procedures at least once every two years;	<input checked="" type="checkbox"/>
(iii) Providing standards for use by the voluntary consensus standard body to approve the accrediting body that will accredit the audit sample providers.	<input checked="" type="checkbox"/>
(4) The technical criteria documents for the accredited sample providers and the accrediting body shall be developed through a public process guided by a voluntary consensus standards body (VCSB). ( <i>abridged – See rule for additional detail</i> )	<input checked="" type="checkbox"/>
(h) Unless otherwise specified in the applicable subpart, each test location must be verified to be free of cyclonic flow and evaluated for the existence of emission gas stratification and the required number of sampling traverse points. If other procedures are not specified in the applicable subpart to the regulations, use the appropriate procedures in Method 1 to check for cyclonic flow and Method 7E to evaluate emission gas stratification and selection of sampling points.	<input checked="" type="checkbox"/>
(i) Whenever the use of multiple calibration gases is required by a test method, performance specification, or quality assurance procedure in a part 60 standard or appendix, Method 205 of 40 CFR part 51, appendix M of this chapter, "Verification of Gas Dilution Systems for Field Instrument Calibrations," may be used.	<input checked="" type="checkbox"/>
<b>Section 60.9 Availability of information</b>	
The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. (Information submitted voluntarily to the Administrator for the purposes of §§ 60.5 and 60.6 is governed by §§ 2.201 through 2.213 of this chapter and not by § 2.301 of this chapter.)	<input checked="" type="checkbox"/>
<b>Section 60.10 State authority</b>	
The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from:	
(a) Adopting and enforcing any emission standard or limitation applicable to an affected facility, provided that such emission standard or limitation is not less stringent than the standard applicable to such facility.	<input checked="" type="checkbox"/>
(b) Requiring the owner or operator of an affected facility to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such facility.	<input checked="" type="checkbox"/>
<b>Section 60.11 Compliance with standards and maintenance requirements</b>	
(a) Compliance with standards in this part, other than opacity standards, shall be determined in accordance with performance tests established by § 60.8, unless otherwise specified in the applicable standard.	<input checked="" type="checkbox"/>
(b) Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in paragraph (e)(5) of this section. For purposes of determining initial compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test or other set of observations (meaning those fugitive-type emission sources subject only to an opacity standard).	<input type="checkbox"/>
(c) The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.	<input type="checkbox"/>
(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.	<input checked="" type="checkbox"/>

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(e)(1) For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in § 60.8 unless one of the following conditions apply. If no performance test under § 60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility. <i>(abridged – See rule for additional detail)</i>	<input type="checkbox"/>
(2) Except as provided in paragraph (e)(3) of this section, the owner or operator of an affected facility to which an opacity standard in this part applies shall conduct opacity observations in accordance with paragraph (b) of this section, shall record the opacity of emissions, and shall report to the Administrator the opacity results along with the results of the initial performance test required under § 60.8. The inability of an owner or operator to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial performance test.	<input type="checkbox"/>
(3) The owner or operator of an affected facility to which an opacity standard in this part applies may request the Administrator to determine and to record the opacity of emissions from the affected facility during the initial performance test and at such times as may be required. The owner or operator of the affected facility shall report the opacity results. Any request to the Administrator to determine and to record the opacity of emissions from an affected facility shall be included in the notification required in § 60.7(a)(6). If, for some reason, the Administrator cannot determine and record the opacity of emissions from the affected facility during the performance test, then the provisions of paragraph (e)(1) of this section shall apply.	<input type="checkbox"/>
(4) An owner or operator of an affected facility using a continuous opacity monitor (transmissometer) shall record the monitoring data produced during the initial performance test required by § 60.8 and shall furnish the Administrator a written report of the monitoring results along with Method 9 and § 60.8 performance test results.	<input type="checkbox"/>
(5) An owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under § 60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under § 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under § 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under § 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under § 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in § 60.13(c) of this part, that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine compliance with the opacity standard.	<input type="checkbox"/>
(6) Upon receipt from an owner or operator of the written reports of the results of the performance tests required by § 60.8, the opacity observation results and observer certification required by § 60.11(e)(1), and the COMS results, if applicable, the Administrator will make a finding concerning compliance with opacity and other applicable standards. If COMS data results are used to comply with an opacity standard, only those results are required to be submitted along with the performance test results required by § 60.8. If the Administrator finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with § 60.8 of this part but during the time such performance tests are being conducted fails to meet any applicable opacity standard, he shall notify the owner or operator and advise him that he may petition the Administrator within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.	<input type="checkbox"/>
(7) The Administrator will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under the conditions established by the Administrator; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.	<input type="checkbox"/>
(8) The Administrator will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity standard in the <b>Federal Register</b> .	<input type="checkbox"/>
(f) Special provisions set forth under an applicable subpart shall supersede any conflicting provisions in paragraphs (a) through (e) of this section.	<input checked="" type="checkbox"/>

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(g) For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.	<input checked="" type="checkbox"/>
<b>Section 60.12 Circumvention</b>	
No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.	<input checked="" type="checkbox"/>
<b>Section 60.13 Monitoring requirements</b>	
(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B to this part and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to this part, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.	<input checked="" type="checkbox"/>
(b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under § 60.8. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.	<input checked="" type="checkbox"/>
(c) If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under § 60.11(e)(5), he shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, <i>(abridged – See rule for additional detail)</i>	<input type="checkbox"/>
(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under § 60.8 and as described in § 60.11(e)(5) shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in paragraph (c) of this section at least 10 days before the performance test required under § 60.8 is conducted.	<input type="checkbox"/>
(2) Except as provided in paragraph (c)(1) of this section, the owner or operator of an affected facility shall furnish the Administrator within 60 days of completion two or, upon request, more copies of a written report of the results of the performance evaluation.	<input type="checkbox"/>
(d)(1) Owners and operators of a CEMS installed in accordance with the provisions of this part, must check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once each operating day in accordance with a written procedure. <i>(abridged – See rule for additional detail)</i>	<input type="checkbox"/>
(2) Unless otherwise approved by the Administrator, the following procedures must be followed for a COMS. Minimum procedures must include an automated method for producing a simulated zero opacity condition and an upscale opacity condition using a certified neutral density filter or other related technique to produce a known obstruction of the light beam. Such procedures must provide a system check of all active analyzer internal optics with power or curvature, all active electronic circuitry including the light source and photodetector assembly, and electronic or electro-mechanical systems and hardware and or software used during normal measurement operation.	<input type="checkbox"/>
(e) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under paragraph (d) of this section, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:	<input checked="" type="checkbox"/>
(1) All continuous monitoring systems referenced by paragraph (c) of this section for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.	<input checked="" type="checkbox"/>
(2) All continuous monitoring systems referenced by paragraph (c) of this section for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.	<input type="checkbox"/>
(f) All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of this part shall be used.	<input checked="" type="checkbox"/>



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(g) When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Administrator. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system.	<input type="checkbox"/>
(h)(1) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in § 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period.	<input type="checkbox"/>
(2) For continuous monitoring systems other than opacity, 1-hour averages shall be computed as follows, except that the provisions pertaining to the validation of partial operating hours are only applicable for affected facilities that are required by the applicable subpart to include partial hours in the emission calculations:	<input type="checkbox"/>
(i) Except as provided under paragraph (h)(2)(iii) of this section, for a full operating hour (any clock hour with 60 minutes of unit operation), at least four valid data points are required to calculate the hourly average, i.e., one data point in each of the 15-minute quadrants of the hour.	<input type="checkbox"/>
(ii) Except as provided under paragraph (h)(2)(iii) of this section, for a partial operating hour (any clock hour with less than 60 minutes of unit operation), at least one valid data point in each 15-minute quadrant of the hour in which the unit operates is required to calculate the hourly average.	<input type="checkbox"/>
(A) If the unit operates in two or more quadrants of the hour, a minimum of two valid data points, separated by at least 15 minutes, is required to calculate the hourly average; or	<input type="checkbox"/>
(B) If the unit operates in only one quadrant of the hour, at least one valid data point is required to calculate the hourly average.	<input type="checkbox"/>
(iii) If a daily calibration error check is failed during any operating hour, all data for that hour shall be invalidated, unless a subsequent calibration error test is passed in the same hour and the requirements of paragraph (h)(2)(iii) of this section are met, based solely on valid data recorded after the successful calibration.	<input type="checkbox"/>
(iv) For each full or partial operating hour, all valid data points shall be used to calculate the hourly average.	<input type="checkbox"/>
(v) Except as provided under paragraph (h)(2)(vii) of this section, data recorded during periods of continuous monitoring system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph.	<input type="checkbox"/>
(vi) Owners and operators complying with the requirements of § 60.7(f)(1) or (2) must include any data recorded during periods of monitor breakdown or malfunction in the data averages.	<input type="checkbox"/>
(vii) When specified in an applicable subpart, hourly averages for certain partial operating hours shall not be computed or included in the emission averages (e.g. hours with < 30 minutes of unit operation under § 60.47b(d)).	<input type="checkbox"/>
(viii) Either arithmetic or integrated averaging of all data may be used to calculate the hourly averages. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O <sub>2</sub> or ng/J of pollutant).	<input type="checkbox"/>
(3) All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the applicable subpart. After conversion into units of the standard, the data may be rounded to the same number of significant digits used in the applicable subpart to specify the emission limit.	<input checked="" type="checkbox"/>
(i) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following:	<input checked="" type="checkbox"/>
(1) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases.	<input checked="" type="checkbox"/>
(2) Alternative monitoring requirements when the affected facility is infrequently operated.	<input checked="" type="checkbox"/>
(3) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.	<input checked="" type="checkbox"/>
(4) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.	<input checked="" type="checkbox"/>



NSPS Provision	Check if applicable
(5) Alternative methods of converting pollutant concentration measurements to units of the standards.	<input type="checkbox"/>
(6) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.	<input type="checkbox"/>
(7) Alternatives to the A.S.T.M. test methods or sampling procedures specified by any subpart.	<input checked="" type="checkbox"/>
(8) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, appendix B, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The Administrator may require that such demonstration be performed for each affected facility.	<input checked="" type="checkbox"/>
(9) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities is released to the atmosphere through more than one point.	<input checked="" type="checkbox"/>
(j) An alternative to the relative accuracy (RA) test specified in Performance Specification 2 of appendix B may be requested as follows:	<input type="checkbox"/>
(1) An alternative to the reference method tests for determining RA is available for sources with emission rates demonstrated to be less than 50 percent of the applicable standard. A source owner or operator may petition the Administrator to waive the RA test in Section 8.4 of Performance Specification 2 and substitute the procedures in Section 16.0 if the results of a performance test conducted according to the requirements in § 60.8 of this subpart or other tests performed following the criteria in § 60.8 demonstrate that the emission rate of the pollutant of interest in the units of the applicable standard is less than 50 percent of the applicable standard. For sources subject to standards expressed as control efficiency levels, a source owner or operator may petition the Administrator to waive the RA test and substitute the procedures in Section 16.0 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the continuous emission monitoring system is used to determine compliance continuously with the applicable standard. The petition to waive the RA test shall include a detailed description of the procedures to be applied. Included shall be location and procedure for conducting the alternative, the concentration or response levels of the alternative RA materials, and the other equipment checks included in the alternative procedure. The Administrator will review the petition for completeness and applicability. The determination to grant a waiver will depend on the intended use of the CEMS data (e.g., data collection purposes other than NSPS) and may require specifications more stringent than in Performance Specification 2 (e.g., the applicable emission limit is more stringent than NSPS).	<input type="checkbox"/>
(2) The waiver of a CEMS RA test will be reviewed and may be rescinded at such time, following successful completion of the alternative RA procedure, that the CEMS data indicate that the source emissions are approaching the level. The criterion for reviewing the waiver is the collection of CEMS data showing that emissions have exceeded 70 percent of the applicable standard for seven, consecutive, averaging periods as specified by the applicable regulation(s). For sources subject to standards expressed as control efficiency levels, the criterion for reviewing the waiver is the collection of CEMS data showing that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for seven, consecutive, averaging periods as specified by the applicable regulation(s) [e.g., §§60.45(g) (2) and (3), 60.73(e), and 60.84(e)]. It is the responsibility of the source operator to maintain records and determine the level of emissions relative to the criterion on the waiver of RA testing. If this criterion is exceeded, the owner or operator must notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increasing emissions. The Administrator will review the notification and may rescind the waiver and require the owner or operator to conduct a RA test of the CEMS as specified in Section 8.4 of Performance Specification 2.	<input type="checkbox"/>
<b>Section 60.14 Modification</b>	
(a) Except as provided under paragraphs (e) and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.	<input checked="" type="checkbox"/>
(b) Emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable. The Administrator shall use the following to determine emission rate:	<input checked="" type="checkbox"/>
(1) Emission factors as specified in the latest issue of "Compilation of Air Pollutant Emission Factors," EPA Publication No. AP-42, or other emission factors determined by the Administrator to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrates that the emission level resulting from the physical or operational change will either clearly increase or clearly not increase.	<input checked="" type="checkbox"/>

NSPS Provision	Check if applicable
(2) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in paragraph (b)(1) of this section does not demonstrate to the Administrator's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Administrator's satisfaction that there are reasonable grounds to dispute the result obtained by the Administrator utilizing emission factors as referenced in paragraph (b)(1) of this section. When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in appendix C of this part shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.	<input checked="" type="checkbox"/>
(c) The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this part any other facility within that source.	<input checked="" type="checkbox"/>
(d) [Reserved]	
(e) The following shall not, by themselves, be considered modifications under this part:	<input checked="" type="checkbox"/>
(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of paragraph (c) of this section and § 60.15.	<input checked="" type="checkbox"/>
(2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.	<input checked="" type="checkbox"/>
(3) An increase in the hours of operation.	<input checked="" type="checkbox"/>
(4) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, as provided by § 60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.	<input checked="" type="checkbox"/>
(5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Administrator determines to be less environmentally beneficial.	<input checked="" type="checkbox"/>
(6) The relocation or change in ownership of an existing facility.	<input checked="" type="checkbox"/>
(f) Special provisions set forth under an applicable subpart of this part shall supersede any conflicting provisions of this section.	<input checked="" type="checkbox"/>
(g) Within 180 days of the completion of any physical or operational change subject to the control measures specified in paragraph (a) of this section, compliance with all applicable standards must be achieved.	<input checked="" type="checkbox"/>
(h) No physical change, or change in the method of operation, at an existing electric utility steam generating unit shall be treated as a modification for the purposes of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the 5 years prior to the change.	<input type="checkbox"/>
(i) Repowering projects that are awarded funding from the Department of Energy as permanent clean coal technology demonstration projects (or similar projects funded by EPA) are exempt from the requirements of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the five years prior to the change.	<input type="checkbox"/>
(j)(1) Repowering projects that qualify for an extension under section 409(b) of the Clean Air Act are exempt from the requirements of this section, provided that such change does not increase the actual hourly emissions of any pollutant regulated under this section above the actual hourly emissions achievable at that unit during the 5 years prior to the change.	<input type="checkbox"/>
(2) This exemption shall not apply to any new unit that:	<input type="checkbox"/>
(i) Is designated as a replacement for an existing unit;	<input type="checkbox"/>
(ii) Qualifies under section 409(b) of the Clean Air Act for an extension of an emission limitation compliance date under section 405 of the Clean Air Act; and	<input type="checkbox"/>

NSPS Provision	Check if applicable
(k) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project is exempt from the requirements of this section. <i>(abridged – See rule for additional detail)</i>	<input type="checkbox"/>
(l) The reactivation of a very clean coal-fired electric utility steam generating unit is exempt from the requirements of this section.	<input type="checkbox"/>
<b>Section 60.15 Reconstruction</b>	
(a) An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.	<input checked="" type="checkbox"/>
(b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:	
(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and	<input checked="" type="checkbox"/>
(2) It is technologically and economically feasible to meet the applicable standards set forth in this part.	<input checked="" type="checkbox"/>
(c) "Fixed capital cost" means the capital needed to provide all the depreciable components.	
(d) If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Administrator of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:  (1) Name and address of the owner or operator. (2) The location of the existing facility. (3) A brief description of the existing facility and the components which are to be replaced. (4) A description of the existing air pollution control equipment and the proposed air pollution control equipment. (5) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility. (6) The estimated life of the existing facility after the replacements. (7) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.	<input checked="" type="checkbox"/>
(e) The Administrator will determine, within 30 days of the receipt of the notice required by paragraph (d) of this section and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.	
(f) The Administrator's determination under paragraph (e) shall be based on:	
(1) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;	
(2) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;	
(3) The extent to which the components being replaced cause or contribute to the emissions from the facility; and	
(4) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.	
(g) Individual subparts of this part may include specific provisions which refine and delimit the concept of reconstruction set forth in this section.	
<b>Section 60.16 Priority list</b>	
<b>Section 60.17 Incorporations by reference</b>	
<b>Section 60.18 General control device and work practice requirements</b>	
(a) <i>Introduction.</i> (1) This section contains requirements for control devices used to comply with applicable subparts of 40 CFR parts 60 and 61. The requirements are placed here for administrative convenience and apply only to facilities covered by subparts referring to this section.	
(2) This section also contains requirements for an alternative work practice used to identify leaking equipment. This alternative work practice is placed here for administrative convenience and is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, Appendix A-7, Method 21 monitor.	
(b) <i>Flares.</i> Paragraphs (c) through (f) apply to flares.	<input type="checkbox"/>

NSPS Provision	Check if applicable
(c)(1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.	<input type="checkbox"/>
(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).	<input type="checkbox"/>
(3) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (c)(3)(ii) of this section and the maximum tip velocity specifications in paragraph (c)(4) of this section, or adhering to the requirements in paragraph (c)(3)(i) of this section.	<input type="checkbox"/>
<p>(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, <math>V_{max}</math>, as determined by the following equation:</p> $V_{max} = (X_{H_2} - K_1) * K_2$ <p>Where</p> <p><math>V_{max}</math> = Maximum permitted velocity, m/sec.</p> <p><math>K_1</math> = Constant, 6.0 volume-percent hydrogen.</p> <p><math>K_2</math> = Constant, 3.9(m/sec)/volume-percent hydrogen.</p> <p><math>X_{H_2}</math> = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 60.17).</p>	<input type="checkbox"/>
(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (f)(4) of this section.	<input type="checkbox"/>
(ii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f)(3) of this section.	<input type="checkbox"/>
(4)(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4) of this section, less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (c)(4) (ii) and (iii) of this section.	<input type="checkbox"/>
(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).	<input type="checkbox"/>
(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity, $V_{max}$ , as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.	<input type="checkbox"/>
(5) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, $V_{max}$ , as determined by the method specified in paragraph (f)(6).	<input type="checkbox"/>
(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.	<input type="checkbox"/>
(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.	<input type="checkbox"/>
(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.	<input type="checkbox"/>
(f)(1) Method 22 of appendix A to this part shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.	<input type="checkbox"/>
(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.	<input type="checkbox"/>
<p>(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:</p> $H_T = K \sum_{i=1}^n C_i H_i$	<input type="checkbox"/>

NSPS Provision	Check if applicable
<p>Where:</p> <p><math>H_T</math> = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;</p> $K = \frac{\text{Constant}}{1.740 \times 10^{-7}} \left( \frac{1}{\text{ppm}} \right) \left( \frac{\text{g mole}}{\text{scm}} \right) \left( \frac{\text{MJ}}{\text{kcal}} \right)$ <p>where the standard temperature for <math>\left( \frac{\text{g mole}}{\text{scm}} \right)</math> is 20°C;</p> <p><math>C_i</math>=Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Reapproved 1994) (Incorporated by reference as specified in § 60.17); and</p> <p><math>H_i</math>=Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.</p>	
<p>(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.</p>	<input type="checkbox"/>
<p>(5) The maximum permitted velocity, <math>V_{\max}</math>, for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.</p> <p><math>\text{Log}_{10}(V_{\max}) = (H_T + 28.8) / 31.7</math></p> <p><math>V_{\max}</math> = Maximum permitted velocity, M/sec</p> <p>28.8 = Constant</p> <p>31.7 = Constant</p> <p><math>H_T</math> = The net heating value as determined in paragraph (f)(3).</p>	<input type="checkbox"/>
<p>(6) The maximum permitted velocity, <math>V_{\max}</math>, for air-assisted flares shall be determined by the following equation.</p> <p><math>V_{\max} = 8.706 + 0.7084 (H_T)</math></p> <p><math>V_{\max}</math> = Maximum permitted velocity, m/sec</p> <p>8.706 = Constant</p> <p>0.7084 = Constant</p> <p><math>H_T</math> = The net heating value as determined in paragraph (f)(3).</p>	<input type="checkbox"/>
<p>(g) <i>Alternative work practice for monitoring equipment for leaks.</i> Paragraphs (g), (h), and (i) of this section apply to all equipment for which the applicable subpart requires monitoring with a 40 CFR part 60, Appendix A-7, Method 21 monitor, except for closed vent systems, equipment designated as leakless, and equipment identified in the applicable subpart as having no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. An owner or operator may use an optical gas imaging instrument instead of a 40 CFR part 60, Appendix A-7, Method 21 monitor. Requirements in the existing subparts that are specific to the Method 21 instrument do not apply under this section. All other requirements in the applicable subpart that are not addressed in paragraphs (g), (h), and (i) of this section apply to this standard. For example, equipment specification requirements, and non-Method 21 instrument recordkeeping and reporting requirements in the applicable subpart continue to apply. The terms defined in paragraphs (g)(1) through (5) of this section have meanings that are specific to the alternative work practice standard in paragraphs (g), (h), and (i) of this section.</p>	<input type="checkbox"/>
<p>(1) <i>Applicable subpart</i> means the subpart in 40 CFR parts 60, 61, 63, or 65 that requires monitoring of equipment with a 40 CFR part 60, Appendix A-7, Method 21 monitor.</p>	
<p>(2) <i>Equipment</i> means pumps, valves, pressure relief valves, compressors, open-ended lines, flanges, connectors, and other equipment covered by the applicable subpart that require monitoring with a 40 CFR part 60, Appendix A-7, Method 21 monitor.</p>	
<p>(3) <i>Imaging</i> means making visible emissions that may otherwise be invisible to the naked eye.</p>	
<p>(4) <i>Optical gas imaging instrument</i> means an instrument that makes visible emissions that may otherwise be invisible to the naked eye.</p>	
<p>(5) <i>Repair</i> means that equipment is adjusted, or otherwise altered, in order to eliminate a leak.</p>	
<p>(6) <i>Leak</i> means:</p>	<input type="checkbox"/>
<p>(i) Any emissions imaged by the optical gas instrument;</p>	<input type="checkbox"/>
<p>(ii) Indications of liquids dripping;</p>	<input type="checkbox"/>

NSPS Provision	Check if applicable
(iii) Indications by a sensor that a seal or barrier fluid system has failed; or	<input type="checkbox"/>
(iv) Screening results using a 40 CFR part 60, Appendix A-7, Method 21 monitor that exceed the leak definition in the applicable subpart to which the equipment is subject.	<input type="checkbox"/>
(h) The alternative work practice standard for monitoring equipment for leaks is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, Appendix A-7, Method 21 monitor.	<input type="checkbox"/>
(1) An owner or operator of an affected source subject to CFR parts 60, 61, 63, or 65 can choose to comply with the alternative work practice requirements in paragraph (i) of this section instead of using the 40 CFR part 60, Appendix A-7, Method 21 monitor to identify leaking equipment. The owner or operator must document the equipment, process units, and facilities for which the alternative work practice will be used to identify leaks.	<input type="checkbox"/>
(2) Any leak detected when following the leak survey procedure in paragraph (i)(3) of this section must be identified for repair as required in the applicable subpart.	<input type="checkbox"/>
(3) If the alternative work practice is used to identify leaks, re-screening after an attempted repair of leaking equipment must be conducted using either the alternative work practice or the 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subpart to which the equipment is subject.	<input type="checkbox"/>
(4) The schedule for repair is as required in the applicable subpart.	<input type="checkbox"/>
(5) When this alternative work practice is used for detecting leaking equipment, choose one of the monitoring frequencies listed in Table 1 to subpart A of this part in lieu of the monitoring frequency specified for regulated equipment in the applicable subpart. Reduced monitoring frequencies for good performance are not applicable when using the alternative work practice.	<input type="checkbox"/>
(6) When this alternative work practice is used for detecting leaking equipment the following are not applicable for the equipment being monitored:	<input type="checkbox"/>
(i) Skip period leak detection and repair;	
(ii) Quality improvement plans; or	
(iii) Complying with standards for allowable percentage of valves and pumps to leak.	
(7) When the alternative work practice is used to detect leaking equipment, the regulated equipment in paragraph (h)(1)(i) of this section must also be monitored annually using a 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subpart. The owner or operator may choose the specific monitoring period (for example, first quarter) to conduct the annual monitoring. Subsequent monitoring must be conducted every 12 months from the initial period. Owners or operators must keep records of the annual Method 21 screening results, as specified in paragraph (i)(4)(vii) of this section.	<input type="checkbox"/>
(i) An owner or operator of an affected source who chooses to use the alternative work practice must comply with the requirements of paragraphs (i)(1) through (i)(5) of this section.	<input type="checkbox"/>
(1) Instrument Specifications. The optical gas imaging instrument must comply with the requirements in (i)(1)(i) and (i)(1)(ii) of this section	<input type="checkbox"/>
(i) Provide the operator with an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check described in paragraph (i)(2) of this section. The detection sensitivity level depends upon the frequency at which leak monitoring is to be performed.	<input type="checkbox"/>
(ii) Provide a date and time stamp for video records of every monitoring event.	<input type="checkbox"/>
(2) Daily Instrument Check. On a daily basis, and prior to beginning any leak monitoring work, test the optical gas imaging instrument at the mass flow rate determined in paragraph (i)(2)(i) of this section in accordance with the procedure specified in paragraphs (i)(2)(ii) through (i)(2)(iv) of this section for each camera configuration used during monitoring (for example, different lenses used), unless an alternative method to demonstrate daily instrument checks has been approved in accordance with paragraph (i)(2)(v) of this section.	<input type="checkbox"/>
(i) Calculate the mass flow rate to be used in the daily instrument check by following the procedures in paragraphs (i)(2)(i)(A) and (i)(2)(i)(B) of this section.	
(A) For a specified population of equipment to be imaged by the instrument, determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, within the distance to be used in paragraph (i)(2)(i)(B) of this section, at or below the standard detection sensitivity level.	<input type="checkbox"/>
(B) Multiply the standard detection sensitivity level, corresponding to the selected monitoring frequency in Table 1 of subpart A of this part, by the mass fraction of detectable chemicals from the stream identified in paragraph (i)(2)(i)(A) of this section to determine the mass flow rate to be used in the daily instrument check, using the following equation.	<input type="checkbox"/>

# NSPS Provision

Check if applicable

$$E_{dic} = (E_{sds}) \sum_{i=1}^k x_i$$

$E_{dic}$  = Mass flow rate for the daily instrument check, grams per hour

$x_i$  = Mass fraction of detectable chemical(s)  $i$  seen by the optical gas imaging instrument, within the distance to be used in paragraph (i)(2)(iv)(B) of this section, at or below the standard detection sensitivity level,  $E_{sds}$ .

$E_{sds}$  = Standard detection sensitivity level from Table 1 to subpart A, grams per hour

$k$  = Total number of detectable chemicals emitted from the leaking equipment and seen by the optical gas imaging instrument.

(ii) Start the optical gas imaging instrument according to the manufacturer's instructions, ensuring that all appropriate settings conform to the manufacturer's instructions.

(iii) Use any gas chosen by the user that can be viewed by the optical gas imaging instrument and that has a purity of no less than 98 percent.

(iv) Establish a mass flow rate by using the following procedures:

(A) Provide a source of gas where it will be in the field of view of the optical gas imaging instrument.

(B) Set up the optical gas imaging instrument at a recorded distance from the outlet or leak orifice of the flow meter that will not be exceeded in the actual performance of the leak survey. Do not exceed the operating parameters of the flow meter.

(C) Open the valve on the flow meter to set a flow rate that will create a mass emission rate equal to the mass rate specified in paragraph (i)(2)(i) of this section while observing the gas flow through the optical gas imaging instrument viewfinder. When an image of the gas emission is seen through the viewfinder at the required emission rate, make a record of the reading on the flow meter.

(v) Repeat the procedures specified in paragraphs (i)(2)(ii) through (i)(2)(iv) of this section for each configuration of the optical gas imaging instrument used during the leak survey.

(vi) To use an alternative method to demonstrate daily instrument checks, apply to the Administrator for approval of the alternative under § 60.13(i).

(3) Leak Survey Procedure. Operate the optical gas imaging instrument to image every regulated piece of equipment selected for this work practice in accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and are subject to repair. All emissions visible to the naked eye are also considered to be leaks and are subject to repair.

(4) Recordkeeping. You must keep the records described in paragraphs (i)(4)(i) through (i)(4)(vii) of this section:

(i) The equipment, processes, and facilities for which the owner or operator chooses to use the alternative work practice.

(ii) The detection sensitivity level selected from Table 1 to subpart A of this part for the optical gas imaging instrument.

(iii) The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, as specified in paragraph (i)(2)(i)(A) of this section.

(iv) The technical basis for the mass fraction of detectable chemicals used in the equation in paragraph (i)(2)(i)(B) of this section.

(v) The daily instrument check. Record the distance, per paragraph (i)(2)(iv)(B) of this section, and the flow meter reading, per paragraph (i)(2)(iv)(C) of this section, at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a time and date stamp for each daily instrument check. The video record must be kept for 5 years.

(vi) Recordkeeping requirements in the applicable subpart. A video record must be used to document the leak survey results. The video record must include a time and date stamp for each monitoring event. A video record can be used to meet the recordkeeping requirements of the applicable subparts if each piece of regulated equipment selected for this work practice can be identified in the video record. The video record must be kept for 5 years.

(vii) The results of the annual Method 21 screening required in paragraph (h)(7) of this section. Records must be kept for all regulated equipment specified in paragraph (h)(1) of this section. Records must identify the equipment screened, the screening value measured by Method 21, the time and date of the screening, and calibration information required in the existing applicable subpart.



NSPS Provision	Check if applicable
(5) Reporting. Submit the reports required in the applicable subpart. Submit the records of the annual Method 21 screening required in paragraph (h)(7) of this section to the Administrator via e-mail to <u>CCG-AWP@EPA.GOV</u> .	<input type="checkbox"/>
<b>Section 60.19 General notification and reporting requirements</b>	
(a) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word "calendar" is absent, unless otherwise specified in an applicable requirement.	<input checked="" type="checkbox"/>
(b) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be delivered or postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery, including the use of electronic media, agreed to by the permitting authority, is acceptable.	<input checked="" type="checkbox"/>
(c) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.	<input checked="" type="checkbox"/>
(d) If an owner or operator of an affected facility in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such facility under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. The allowance in the previous sentence applies in each State beginning 1 year after the affected facility is required to be in compliance with the applicable subpart in this part. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.	<input checked="" type="checkbox"/>
(e) If an owner or operator supervises one or more stationary sources affected by standards set under this part and standards set under part 61, part 63, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State with an approved permit program) a common schedule on which periodic reports required by each applicable standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the applicable subpart in this part, or 1 year after the stationary source is required to be in compliance with the applicable 40 CFR part 61 or part 63 of this chapter standard, whichever is latest. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.	<input checked="" type="checkbox"/>
(f)(1)(i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (f)(2) and (f)(3) of this section, the owner or operator of an affected facility remains strictly subject to the requirements of this part.	<input checked="" type="checkbox"/>
(ii) An owner or operator shall request the adjustment provided for in paragraphs (f)(2) and (f)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.	<input checked="" type="checkbox"/>
(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.	<input checked="" type="checkbox"/>
(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.	<input checked="" type="checkbox"/>
(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.	<input checked="" type="checkbox"/>

**Table 1 to Subpart A to Part 60-Detection Sensitivity Levels (grams per hour)**

Monitoring frequency per subpart <sup>a</sup>	Detection sensitivity level
Bi-Monthly	60
Semi-Quarterly	85
Monthly	100

<sup>a</sup> When this alternative work practice is used to identify leaking equipment, the owner or operator must choose one of the monitoring frequencies listed in this table in lieu of the monitoring frequency specified in the applicable subpart. Bi-monthly means every other month. Semi-quarterly means twice per quarter. Monthly means once per month.

*(abridged – See rule for additional detail)*


**I. Introduction**

An owner or operator may fill in this form in replacement of a highlighted copy of the New Source Performance Standard (NSPS) located in 40 CFR 60, Subpart XX — Standards of Performance for Bulk Gasoline Terminals.

Please be aware that all facilities subject to this NSPS are also subject to 40 CFR 60 Subpart A - General Provisions. Where this NSPS refers to portions of Subpart A (§60.1 to §60.19), please copy those referenced portions of Subpart A and check off the specific items that apply to your facility.

You can find the most recent version of 40 CFR 60, subpart A on EPA's website at <http://www.epa.gov/epacfr40/chapt-I.info/chi-toc.htm/>. A formatted version of subpart A (Form NSPS-A) with check off boxes is available on the MPCA's website, at <http://www.pca.state.mn.us/air/permits/forms.html>.

NSPS PROVISION	<input checked="" type="checkbox"/> if APPLICABLE
Location and Language	
<b>Section 60.500 Applicability and designation of affected facility.</b>	<input checked="" type="checkbox"/>
(a) The affected facility to which the provisions of this subpart apply is the total of all the loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks.	<input checked="" type="checkbox"/>
(b) Each facility under paragraph (a) of this section, the construction or modification of which is commenced after December 17, 1980, is subject to the provisions of this subpart.	<input checked="" type="checkbox"/>
(c) For purposes of this subpart, any replacement of components of an existing facility, described in paragraph (a) of this section, commenced before August 18, 1983 in order to comply with any emission standard adopted by a State or political subdivision thereof will not be considered a reconstruction under the provisions of 40 CFR 60.15.	<input checked="" type="checkbox"/>
Note: The intent of these standards is to minimize the emissions of VOC through the application of best demonstrated technologies (BDT). The numerical emission limits in this standard are expressed in terms of total organic compounds. This emission limit reflects the performance of BDT.	
<b>Section 60.501 Definitions.</b>	
The terms used in this subpart are defined in the Clean Air Act, in §60.2 of this part, or in this section as follows:  <i>Bulk gasoline terminal</i> means any gasoline facility which receives gasoline by pipeline, ship or barge, and has a gasoline throughput greater than 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal, State or local law and discoverable by the Administrator and any other person.  <i>Continuous vapor processing system</i> means a vapor processing system that treats total organic compounds vapors collected from gasoline tank trucks on a demand basis without intermediate accumulation in a vapor holder.  <i>Existing vapor processing system</i> means a vapor processing system [capable of achieving emissions to the atmosphere no greater than 80 milligrams of total organic compounds per liter of gasoline loaded], the construction or refurbishment of which was commenced before December 17, 1980, and which was not constructed or refurbished after that date.  <i>Flare</i> means a thermal oxidation system using an open (without enclosure) flame.	

NSPS PROVISION Location and Language	<input checked="" type="checkbox"/> if APPLICABLE
<b>Section 60.501 Definitions. (continued)</b>	
<p><i>Gasoline</i> means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater which is used as a fuel for internal combustion engines.</p> <p><i>Gasoline tank truck</i> means a delivery tank truck used at bulk gasoline terminals which is loading gasoline or which has loaded gasoline on the immediately previous load.</p> <p><i>Intermittent vapor processing system</i> means a vapor processing system that employs an intermediate vapor holder to accumulate total organic compounds vapors collected from gasoline tank trucks, and treats the accumulated vapors only during automatically controlled cycles.</p> <p><i>Loading rack</i> means the loading arms, pumps, meters, shutoff valves, relief valves, and other piping and valves necessary to fill delivery tank trucks.</p> <p><i>Refurbishment</i> means, with reference to a vapor processing system, replacement of components of, or addition of components to, the system within any 2-year period such that the fixed capital cost of the new components required for such component replacement or addition exceeds 50 percent of the cost of a comparable entirely new system.</p> <p><i>Thermal oxidation system</i> means a combustion device used to mix and ignite fuel, air pollutants, and air to provide a flame to heat and oxidize hazardous air pollutants. Auxiliary fuel may be used to heat air pollutants to combustion temperatures.</p> <p><i>Total organic compounds</i> means those compounds measured according to the procedures in §60.503.</p> <p><i>Vapor collection system</i> means any equipment used for containing total organic compounds vapors displaced during the loading of gasoline tank trucks.</p> <p><i>Vapor processing system</i> means all equipment used for recovering or oxidizing total organic compounds vapors displaced from the affected facility.</p> <p><i>Vapor-tight gasoline tank truck</i> means a gasoline tank truck which has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 750 pascals (75 mm of water) within 5 minutes after it is pressurized to 4,500 pascals (450 mm of water). This capability is to be demonstrated using the pressure test procedure specified in Method 27.</p>	
<b>Section 60.502 Standard for Volatile Organic Compound (VOC) emissions from bulk gasoline terminals.</b>	<input checked="" type="checkbox"/>
On and after the date on which §60.8(a) requires a performance test to be completed, the owner or operator of each bulk gasoline terminal containing an affected facility shall comply with the requirements of this section.	<input checked="" type="checkbox"/>
(a) Each affected facility shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading.	<input checked="" type="checkbox"/>
(b) The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded, except as noted in paragraph (c) of this section.	<input checked="" type="checkbox"/>
(c) For each affected facility equipped with an existing vapor processing system, the emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 80 milligrams of total organic compounds per liter of gasoline loaded.	<input checked="" type="checkbox"/>
(d) Each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.	<input checked="" type="checkbox"/>

NSPS PROVISION Location and Language	<input checked="" type="checkbox"/> if APPLICABLE
<b>Section 60.502 Standard for Volatile Organic Compound (VOC) emissions from bulk gasoline terminals. (continued)</b>	<input checked="" type="checkbox"/>
(e) Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:	<input checked="" type="checkbox"/>
(1) The owner or operator shall obtain the vapor tightness documentation described in §60.505(b) for each gasoline tank truck which is to be loaded at the affected facility.	<input checked="" type="checkbox"/>
(2) The owner or operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the affected facility.	<input checked="" type="checkbox"/>
(3) (i) The owner or operator shall cross-check each tank identification number obtained in paragraph (e)(2) of this section with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded, unless either of the following conditions is maintained:	<input checked="" type="checkbox"/>
(A) If less than an average of one gasoline tank truck per month over the last 26 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed each quarter; or	<input checked="" type="checkbox"/>
(B) If less than an average of one gasoline tank truck per month over the last 52 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed semiannually.	<input checked="" type="checkbox"/>
(ii) If either the quarterly or semiannual cross-check provided in paragraphs (e)(3)(i) (A) through (B) of this section reveals that these conditions were not maintained, the source must return to biweekly monitoring until such time as these conditions are again met.	<input checked="" type="checkbox"/>
(4) The terminal owner or operator shall notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the affected facility within 1 week of the documentation cross-check in paragraph (e)(3) of this section.	<input checked="" type="checkbox"/>
(5) The terminal owner or operator shall take steps assuring that the nonvapor-tight gasoline tank truck will not be reloaded at the affected facility until vapor tightness documentation for that tank is obtained.	<input checked="" type="checkbox"/>
(6) Alternate procedures to those described in paragraphs (e)(1) through (5) of this section for limiting gasoline tank truck loadings may be used upon application to, and approval by, the Administrator.	<input checked="" type="checkbox"/>
(f) The owner or operator shall act to assure that loadings of gasoline tank trucks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.	<input checked="" type="checkbox"/>
(g) The owner or operator shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the affected facility. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.	<input checked="" type="checkbox"/>
(h) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in §60.503(d).	<input checked="" type="checkbox"/>
(i) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).	<input checked="" type="checkbox"/>
(j) Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.	<input checked="" type="checkbox"/>
<b>Section 60.503 Test methods and procedures.</b>	<input checked="" type="checkbox"/>
(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). The three-run requirement of §60.8(f) does not apply to this subpart.	<input checked="" type="checkbox"/>

NSPS PROVISION Location and Language	<input checked="" type="checkbox"/> if APPLICABLE
<b>Section 60.503 Test methods and procedures. (continued)</b>	<input checked="" type="checkbox"/>
(b) Immediately before the performance test required to determine compliance with §60.502 (b), (c), and (h), the owner or operator shall use Method 21 to monitor for leakage of vapor all potential sources in the terminal's vapor collection system equipment while a gasoline tank truck is being loaded. The owner or operator shall repair all leaks with readings of 10,000 ppm (as methane) or greater before conducting the performance test.	<input checked="" type="checkbox"/>
(c) The owner or operator shall determine compliance with the standards in §60.502 (b) and (c) as follows:	<input checked="" type="checkbox"/>
(1) The performance test shall be 6 hours long during which at least 300,000 liters of gasoline is loaded. If this is not possible, the test may be continued the same day until 300,000 liters of gasoline is loaded or the test may be resumed the next day with another complete 6-hour period. In the latter case, the 300,000-liter criterion need not be met. However, as much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.	<input checked="" type="checkbox"/>
(2) If the vapor processing system is intermittent in operation, the performance test shall begin at a reference vapor holder level and shall end at the same reference point. The test shall include at least two startups and shutdowns of the vapor processor. If this does not occur under automatically controlled operations, the system shall be manually controlled.	<input checked="" type="checkbox"/>
<p>(3) The emission rate (E) of total organic compounds shall be computed using the following equation:</p> $E = K \sum_{i=1}^n (V_{esi} C_{ei}) / (L 10^6)$ <p>where:</p> <p>E = emission rate of total organic compounds, mg/liter of gasoline loaded.  <math>V_{esi}</math> = volume of air-vapor mixture exhausted at each interval "i", scm.  <math>C_{ei}</math> = concentration of total organic compounds at each interval "i", ppm.  L = total volume of gasoline loaded, liters.  n = number of testing intervals.  i = emission testing interval of 5 minutes.  K = density of calibration gas, <math>1.83 \times 10^6</math> for propane and <math>2.41 \times 10^6</math> for butane, mg/scm.</p>	<input checked="" type="checkbox"/>
(4) The performance test shall be conducted in intervals of 5 minutes. For each interval "i", readings from each measurement shall be recorded, and the volume exhausted ( $V_{esi}$ ) and the corresponding average total organic compounds concentration ( $C_{ei}$ ) shall be determined. The sampling system response time shall be considered in determining the average total organic compounds concentration corresponding to the volume exhausted.	<input checked="" type="checkbox"/>
(5) The following methods shall be used to determine the volume ( $V_{esi}$ ) air-vapor mixture exhausted at each interval:	<input checked="" type="checkbox"/>
(i) Method 2B shall be used for combustion vapor processing systems.	<input checked="" type="checkbox"/>
(ii) Method 2A shall be used for all other vapor processing systems.	<input checked="" type="checkbox"/>
(6) Method 25A or 25B shall be used for determining the total organic compounds concentration ( $C_{ei}$ ) at each interval. The calibration gas shall be either propane or butane. The owner or operator may exclude the methane and ethane content in the exhaust vent by any method (e.g., Method 18) approved by the Administrator.	<input checked="" type="checkbox"/>
(7) To determine the volume (L) of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the processing system being tested, terminal records or readings from gasoline dispensing meters at each loading rack shall be used.	<input checked="" type="checkbox"/>



NSPS PROVISION Location and Language	<input checked="" type="checkbox"/> if APPLICABLE
<b>Section 60.503 Test methods and procedures. (continued)</b>	<input checked="" type="checkbox"/>
(d) The owner or operator shall determine compliance with the standard in §60.502(h) as follows:	<input checked="" type="checkbox"/>
(1) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with $\pm 2.5$ mm of water precision, shall be calibrated and installed on the terminal's vapor collection system at a pressure tap located as close as possible to the connection with the gasoline tank truck.	<input checked="" type="checkbox"/>
(2) During the performance test, the pressure shall be recorded every 5 minutes while a gasoline truck is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test.	<input checked="" type="checkbox"/>
(e) The performance test requirements of paragraph (c) of this section do not apply to flares defined in §60.501 and meeting the requirements in §60.18(b) through (f). The owner or operator shall demonstrate that the flare and associated vapor collection system is in compliance with the requirements in §§60.18(b) through (f) and 60.503(a), (b), and (d).	<input checked="" type="checkbox"/>
(f) The owner or operator shall use alternative test methods and procedures in accordance with the alternative test method provisions in §60.8(b) for flares that do not meet the requirements in §60.18(b).	<input checked="" type="checkbox"/>
<b>Section 60.504</b>	
Reserved	
<b>Section 60.505 Reporting and recordkeeping.</b>	<input checked="" type="checkbox"/>
(a) The tank truck vapor tightness documentation required under §60.502(e)(1) shall be kept on file at the terminal in a permanent form available for inspection.	<input checked="" type="checkbox"/>
(b) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information:	<input checked="" type="checkbox"/>
(1) Test title: Gasoline Delivery Tank Pressure Test—EPA Reference Method 27.	<input checked="" type="checkbox"/>
(2) Tank owner and address.	<input checked="" type="checkbox"/>
(3) Tank identification number.	<input checked="" type="checkbox"/>
(4) Testing location.	<input checked="" type="checkbox"/>
(5) Date of test.	<input checked="" type="checkbox"/>
(6) Tester name and signature.	<input checked="" type="checkbox"/>
(7) Witnessing inspector, if any: Name, signature, and affiliation.	<input checked="" type="checkbox"/>
(8) Test results: Actual pressure change in 5 minutes, mm of water (average for 2 runs).	<input checked="" type="checkbox"/>
(c) A record of each monthly leak inspection required under §60.502(j) shall be kept on file at the terminal for at least 2 years. Inspection records shall include, as a minimum, the following information:	<input checked="" type="checkbox"/>
(1) Date of inspection.	<input checked="" type="checkbox"/>
(2) Findings (may indicate no leaks discovered; or location, nature, and severity of each leak).	<input checked="" type="checkbox"/>
(3) Leak determination method.	<input checked="" type="checkbox"/>
(4) Corrective action (date each leak repaired; reasons for any repair interval in excess of 15 days).	<input checked="" type="checkbox"/>
(5) Inspector name and signature.	<input checked="" type="checkbox"/>
(d) The terminal owner or operator shall keep documentation of all notifications required under §60.502(e)(4) on file at the terminal for at least 2 years.	<input checked="" type="checkbox"/>
(e) As an alternative to keeping records at the terminal of each gasoline cargo tank test result as required in paragraphs (a), (c), and (d) of this section, an owner or operator may comply with the requirements in either paragraph (e)(1) or (2) of this section.	<input checked="" type="checkbox"/>
(1) An electronic copy of each record is instantly available at the terminal.	<input checked="" type="checkbox"/>



NSPS PROVISION Location and Language	<input checked="" type="checkbox"/> if APPLICABLE
<b>Section 60.505 Reporting and recordkeeping. (continued)</b>	<input checked="" type="checkbox"/>
(i) The copy of each record in paragraph (e)(1) of this section is an exact duplicate image of the original paper record with certifying signatures.	<input checked="" type="checkbox"/>
(ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance with paragraph (e)(1) of this section.	<input checked="" type="checkbox"/>
(2) For facilities that utilize a terminal automation system to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading (e.g., via a card lock-out system), a copy of the documentation is made available (e.g., via facsimile) for inspection by permitting authority representatives during the course of a site visit, or within a mutually agreeable time frame.	<input checked="" type="checkbox"/>
(i) The copy of each record in paragraph (e)(2) of this section is an exact duplicate image of the original paper record with certifying signatures.	<input checked="" type="checkbox"/>
(ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance with paragraph (e)(2) of this section.	<input checked="" type="checkbox"/>
(f) The owner or operator of an affected facility shall keep records of all replacements or additions of components performed on an existing vapor processing system for at least 3 years.	<input checked="" type="checkbox"/>
<b>Section 60.506 Reconstruction.</b>	<input checked="" type="checkbox"/>
For purposes of this subpart:	
(a) The cost of the following frequently replaced components of the affected facility shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital costs that would be required to construct a comparable entirely new facility" under §60.15: pump seals, loading arm gaskets and swivels, coupler gaskets, overfill sensor couplers and cables, flexible vapor hoses, and grounding cables and connectors.	<input checked="" type="checkbox"/>
(b) Under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in §60.506(a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following December 17, 1980. For purposes of this paragraph, "commenced" means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.	<input checked="" type="checkbox"/>

## **Attachment 1**

### **Emission Calculations Summary Tables**

Magellan Pipeline Co., LP - Mankato Terminal  
Potential to Emit - February 2024  
Facility Totals

Emissions Unit	EU No.	Criteria Pollutants (ton/yr)			Hazardous Air Pollutants (ton/yr)							Greenhouse Gases (ton/yr)			
		VOC	CO	NOx	2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes	Total HAP	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Gasoline-loading Uncaptured Emissions	EU 001	11.77	-	-	0.09	0.11	0.01	0.19	0.15	0.06	0.61	-	-	-	-
VCU Stack	SV 001	32.24	9.22	3.69	0.26	0.29	0.03	0.52	0.42	0.16	1.68	2,884.67	0.13	0.02	2,895.03
Distillate-loading Emissions	EU 001	0.00	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-
Tank No. 582	TK 001 / Insig.	0.20	-	-	1.62E-03	1.82E-03	2.03E-04	3.24E-03	2.63E-03	1.01E-03	0.01	-	-	-	-
Tank No. 583	TK 002 / Insig.	0.20	-	-	1.62E-03	1.82E-03	2.02E-04	3.24E-03	2.63E-03	1.01E-03	0.01	-	-	-	-
Tank No. 584	TK 003 / Insig.	0.20	-	-	1.62E-03	1.82E-03	2.03E-04	3.24E-03	2.63E-03	1.01E-03	0.01	-	-	-	-
Tank No. 585	TK 004	13.31	-	-	0.11	0.12	0.01	0.21	0.17	0.07	6.92E-01	-	-	-	-
Tank No. 586	TK 005 / Insig.	0.20	-	-	1.62E-03	1.82E-03	2.02E-04	3.24E-03	2.63E-03	1.01E-03	0.01	-	-	-	-
Tank No. 1322	TK 006	6.10	-	-	0.05	0.05	6.10E-03	0.10	0.08	0.03	3.17E-01	-	-	-	-
Tank No. 1323	TK 007 / Insig.	0.71	-	-	5.67E-03	6.38E-03	7.09E-04	1.13E-02	9.22E-03	3.54E-03	3.69E-02	-	-	-	-
Tank No. 1324	TK 008	10.90	-	-	0.09	0.10	0.01	0.17	0.14	0.05	5.67E-01	-	-	-	-
Tank No. 1325	TK 009	10.91	-	-	0.09	0.10	0.01	0.17	0.14	0.05	5.67E-01	-	-	-	-
Tank No. 1382	TK 010 / Insig.	0.72	-	-	5.79E-03	6.52E-03	7.24E-04	1.16E-02	9.41E-03	3.62E-03	3.77E-02	-	-	-	-
Tank No. 1383	TK 011	10.91	-	-	0.09	0.10	0.01	0.17	0.14	0.05	0.57	-	-	-	-
Tank No. 1384	TK 012	5.66	-	-	0.05	0.05	5.66E-03	0.09	0.07	0.03	2.94E-01	-	-	-	-
Tank No. 6008	TK 013 / Insig.	0.36	-	-	2.88E-03	3.24E-03	3.60E-04	5.77E-03	4.69E-03	1.80E-03	1.87E-02	-	-	-	-
Tank No. 6009	TK 014 / Insig.	0.36	-	-	2.92E-03	3.28E-03	3.65E-04	5.84E-03	4.74E-03	1.82E-03	0.02	-	-	-	-
Tank No. 6010	TK 015 / Insig.	0.36	-	-	2.88E-03	3.24E-03	3.60E-04	5.77E-03	4.68E-03	1.80E-03	0.02	-	-	-	-
Tank No. 6011	TK 016 / Insig.	0.36	-	-	2.88E-03	3.24E-03	3.60E-04	5.76E-03	4.68E-03	1.80E-03	0.02	-	-	-	-
Tank No. 6012	TK 017 / Insig.	0.36	-	-	2.88E-03	3.24E-03	3.60E-04	5.77E-03	4.69E-03	1.80E-03	0.02	-	-	-	-
Tank No. 186	TK 018	1.63	-	-	0.01	0.01	1.63E-03	0.03	0.02	8.14E-03	0.08	-	-	-	-
Tank No. 183	TK 019 / Insig.	0.04	-	-	2.83E-04	3.18E-04	3.54E-05	5.66E-04	4.60E-04	1.77E-04	1.84E-03	-	-	-	-
Additives Tanks - 10 Tanks	Insig.	0.31	-	-	3.44E-03	3.87E-03	4.30E-04	6.88E-03	5.59E-03	2.15E-03	0.02	-	-	-	-
Equipment Fugitives	FS 001	0.23	-	-	1.84E-03	2.07E-03	2.30E-04	3.68E-03	2.99E-03	1.15E-03	0.01	-	-	-	-
Butane Unloading (Tanker Trucks)	Insig.	0.38	-	-	-	-	-	-	-	-	0.00	-	-	-	-
Ethanol Unloading (Tanker Trucks)	Insig.	0.05	-	-	8.34E-06	9.38E-06	1.04E-06	1.67E-05	1.36E-05	5.21E-06	5.42E-05	-	-	-	-
Bio-Diesel Unloading	Insig.	2.28E-03	-	-	1.82E-05	2.05E-05	2.28E-06	3.64E-05	2.96E-05	1.14E-05	1.18E-04	-	-	-	-
<b>PTE for All Emissions Units</b>		108.50	9.22	3.69	0.87	0.97	0.11	1.73	1.41	0.54	5.63	2,884.67	0.13	0.02	2,895.03
<b>PTE Excluding Insig. Activities</b>		103.66	9.22	3.69	0.83	0.93	0.10	1.66	1.35	0.52	5.39	2,884.67	0.13	0.02	2,895.03

Magellan Pipeline Co., LP - Mankato Terminal  
Potential to Emit - February 2024  
Facility Totals

Emissions Unit	EU No.	Criteria Pollutants (lbs/hr)			Hazardous Air Pollutants (lbs/hr)							Greenhouse Gases (lbs/hr)			
		VOC	CO	NOx	2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes	Total HAP	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Gasoline-loading Uncaptured Emissions	EU 001	2.69	-	-	0.02	0.02	0.00	0.04	0.03	0.01	0.14	-	-	-	-
VCU Stack	SV 001	7.36	2.10	0.84	0.06	0.07	0.01	0.12	0.10	0.04	0.38	658.60	0.03	0.01	660.97
Distillate-loading Emissions	EU 001	-	-	-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-
Tank No. 582	TK 001 / Insig.	0.05	-	-	3.70E-04	4.16E-04	4.62E-05	7.40E-04	6.01E-04	2.31E-04	2.40E-03	-	-	-	-
Tank No. 583	TK 002 / Insig.	0.05	-	-	3.70E-04	4.16E-04	4.62E-05	7.40E-04	6.01E-04	2.31E-04	2.40E-03	-	-	-	-
Tank No. 584	TK 003 / Insig.	0.05	-	-	3.70E-04	4.16E-04	4.62E-05	7.40E-04	6.01E-04	2.31E-04	2.40E-03	-	-	-	-
Tank No. 585	TK 004	3.04	-	-	0.02	0.03	3.04E-03	0.05	0.04	0.02	0.16	-	-	-	-
Tank No. 586	TK 005 / Insig.	0.05	-	-	3.70E-04	4.16E-04	4.62E-05	7.39E-04	6.01E-04	2.31E-04	2.40E-03	-	-	-	-
Tank No. 1322	TK 006	24.52	-	-	0.20	0.22	0.02	0.39	0.32	0.12	7.24E-02	-	-	-	-
Tank No. 1323	TK 007 / Insig.	0.16	-	-	1.29E-03	1.46E-03	1.62E-04	2.59E-03	2.10E-03	8.09E-04	8.42E-03	-	-	-	-
Tank No. 1324	TK 008	195.74	-	-	1.60	1.80	0.20	3.19	2.60	1.00	1.29E-01	-	-	-	-
Tank No. 1325	TK 009	195.74	-	-	1.60	1.80	0.20	3.19	2.60	1.00	1.30E-01	-	-	-	-
Tank No. 1382	TK 010 / Insig.	0.17	-	-	1.32E-03	1.49E-03	1.65E-04	2.65E-03	2.15E-03	8.27E-04	8.60E-03	-	-	-	-
Tank No. 1383	TK 011	195.74	-	-	1.60	1.80	0.20	3.19	2.60	1.00	1.30E-01	-	-	-	-
Tank No. 1384	TK 012	24.42	-	-	0.22	0.25	0.03	0.44	0.36	0.14	6.72E-02	-	-	-	-
Tank No. 6008	TK 013 / Insig.	0.08	-	-	6.58E-04	7.41E-04	8.23E-05	1.32E-03	1.07E-03	4.11E-04	4.28E-03	-	-	-	-
Tank No. 6009	TK 014 / Insig.	0.08	-	-	6.66E-04	7.50E-04	8.33E-05	1.33E-03	1.08E-03	4.16E-04	4.33E-03	-	-	-	-
Tank No. 6010	TK 015 / Insig.	0.08	-	-	6.58E-04	7.40E-04	8.23E-05	1.32E-03	1.07E-03	4.11E-04	4.28E-03	-	-	-	-
Tank No. 6011	TK 016 / Insig.	0.08	-	-	6.58E-04	7.40E-04	8.22E-05	1.32E-03	1.07E-03	4.11E-04	4.28E-03	-	-	-	-
Tank No. 6012	TK 017 / Insig.	0.08	-	-	6.58E-04	7.41E-04	8.23E-05	1.32E-03	1.07E-03	4.11E-04	4.28E-03	-	-	-	-
Tank No. 186	TK 018	0.37	-	-	2.97E-03	3.34E-03	3.72E-04	5.94E-03	4.83E-03	1.86E-03	1.93E-02	-	-	-	-
Tank No. 183	TK 019 / Insig.	0.01	-	-	6.46E-05	7.27E-05	8.07E-06	1.29E-04	1.05E-04	4.04E-05	4.20E-04	-	-	-	-
Additives Tanks - 10 Tanks	Insig.	0.07	-	-	7.85E-04	8.84E-04	9.82E-05	1.57E-03	1.28E-03	4.91E-04	5.11E-03	-	-	-	-
Equipment Fugitives	FS 001	0.05	-	-	4.21E-04	4.73E-04	5.26E-05	8.41E-04	6.84E-04	2.63E-04	2.73E-03	-	-	-	-
Butane Unloading (Tanker Trucks)	Insig.	0.09	-	-	-	-	-	-	-	-	0.00E+00	-	-	-	-
Ethanol Unloading (Tanker Trucks)	Insig.	0.01	-	-	1.90E-06	2.14E-06	2.38E-07	3.81E-06	3.09E-06	1.19E-06	1.24E-05	-	-	-	-
Bio-Diesel Unloading	Insig.	0.0005	-	-	4.16E-06	4.67E-06	5.19E-07	8.31E-06	6.75E-06	2.60E-06	2.70E-05	-	-	-	-
<b>PTE for All Emissions Units</b>		650.77	2.10	0.84	5.32	5.99	0.67	10.65	8.65	3.33	1.28	658.60	0.03	5.53E-03	660.97
<b>PTE Excluding Insig. Activities</b>		649.67	2.10	0.84	5.32	5.98	0.66	10.63	8.64	3.32	1.23	658.60	0.03	5.53E-03	660.97

**Magellan Pipeline Company, L.P. - Mankato Terminal**  
**Potential to Emit - Bio-diesel Unloading**

**Bio-diesel Unloading Emissions**

Potential emissions from bio-diesel unloading are estimated using the following equation: Maximum Hourly Emissions = V\*D\*E

V = Volume Emitted Per Disconnect (gal)

D = Density of Bio-diesel - (lb/gal)

E = Unloading events per year

Emission Source	V (gal)	D (lb/gal)	E (Events/Yr)	Potential to Emit (lb/yr)	Potential to Emit (TPY)
Bio-diesel truck Unloading	0.0013	7	500	4.55	0.002275

HAP Fraction of VOC			
Pollutant	Bio-diesel Fraction of VOC	Potential HAP Emissions (lb/yr)	Potential HAP Emissions (TPY)
2,2,4 Trimethylpentane	0.008	0.036	0.00002
Benzene	0.009	0.041	0.00002
Ethyl Benzene	0.001	0.0046	0.00000
Hexane	0.016	0.0728	0.00004
Toluene	0.013	0.059	0.00003
Total Xylenes	0.005	0.023	0.00001
<b>Total HAP's</b>		<b>0.237</b>	<b>0.00012</b>

Magellan Pipeline Co., LP - Mankato Terminal  
Potential to Emit - February 2024  
Loading Rack

Maximum Loading Rack Throughput: 220,752,000 gal/yr

Criteria Pollutants

Product Loaded	Gasoline & Ethanol	Distillate Fuels	Totals
Control Device	VCU	None	
Saturation Factor S	1.00	1.00	
Loading Temperature T, (°F)	46.63	46.63	
Avg. True Vapor Pressure P (psia)	5.376	0.0052	
Vapor Molecular Weight M	62.00	130.00	
Throughput Q, (gal/yr)	220,752,000	0	
Loading Loss Factor L <sub>L</sub> (lb/1000-gal)	8.203	0.017	
Uncontrolled VOC (L <sub>L</sub> *Q), ton/yr	905.41	0.00	905.41
Vapor Capture Efficiency	0.987	NA	
VOC Emission Factor (mg/l-loaded)	35.00	NA	
Uncaptured VOC Emissions (ton/yr) - Loading Fugitive	11.77	0.00	11.77
Controlled VOC Emissions (ton/yr)	32.24	0.00	32.24
Total VOC Emissions (ton/yr)	44.01	0.00	44.01
NOx Emission Factor (lb/1000-gal-loaded)	0.0334	0.00	
NOx Emissions (ton/yr)	3.687	0.00	3.69
CO Emission Factor (lb/1000-gal-loaded)	0.0835	0.00	
CO Emissions (ton/yr)	9.216	0.00	9.22

Total Potential VOC and HAP Emissions (ton/yr)

Process/Emission Point	VOC	2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Mixed Xylenes
		0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC
Gasoline-loading uncaptured emissions	11.77	0.094	0.106	0.012	0.188	0.153	0.059
VCU stack	32.24	0.258	0.290	0.032	0.516	0.419	0.161
Distillate loading emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions (ton/yr.)	44.01	0.352	0.396	0.044	0.704	0.572	0.220

NOTES

- Loading loss equation from AP-42, Section 5.2.  $L_L = 12.46 \cdot \text{SPM}/T$
- Saturation Factor (S) is for vapor-balanced submerged loading.
- Physical properties for gasoline are from TankESP for Gasoline RVP13 at the annual average loading temperature.
- Physical properties for distillate fuels are from TankESP for Jet Kerosene at the annual average loading temperature.
- VOC factor for VCU is the proposed permit limit of 35 mg VOC emitted for every liter of gasoline loaded.
- VOC emissions from distillate loading assumed to be uncontrolled.
- Gasoline HAP fractions from Table 3-2 of *Gasoline Distribution Industry (Stage 1)-Background Information for Proposed Standards* (EPA January 1994).
- Gasoline HAP fractions assumed for emissions from distillate-fuel loading.
- 2,2,4 TMP is 2,2,4 trimethylpentane.
- NOx and CO emission factors are from the VCU manufacturer.
- TMP is trimethylpentane.

**Magellan Pipeline Co., LP - Mankato Terminal**  
**Potential to Emit - February 2024**  
**Tanks in Normal Operation, VOC Emissions**

EU	Tank No.	Tank Type <sup>1</sup>	Diameter (ft)	Height (ft)	Capacity (gal)	Annual Turnovers	Potential Throughput		Most Volatile Product Stored	VOC Emissions				
							(gal/yr)	(gal/hr)		Standing (lb/yr)	Working (lb/yr)	Total (lb/yr)	Total (lb/hr)	Total (ton/yr)
TK 001	582	VFR	45	40	458,430	104.00	47,676,720	5,443	Diesel	51	354	405	0.05	0.20
TK 002	583	VFR	45	40	458,346	104.00	47,667,984	5,442	Diesel	51	354	405	0.05	0.20
TK 003	584	VFR	45	40	458,388	104.00	47,672,352	5,442	Diesel	51	354	405	0.05	0.20
TK 004	585	VFR	45	40	458,430	104.00	47,676,720	5,443	Ethanol	2,672	23,957	26,629	3.04	13.31
TK 005	586	VFR	45	40	457,716	104.00	47,602,464	5,434	Diesel	51	353	405	0.05	0.20
TK 006	1322	IFR	85	40	1,528,254	104.00	158,938,416	18,144	Regular Gasoline	8,423	385	8,807	1.01	4.40
TK 007	1323	VFR	85	40	1,529,346	104.00	159,051,984	18,157	#2 Fuel Oil	187	1,231	1,418	0.16	0.71
TK 008	1324	IFR	85	40	1,526,280	104.00	158,733,120	18,120	Regular Gasoline	9,856	357	10,213	1.17	5.11
TK 009	1325	IFR	85	40	1,570,548	104.00	163,336,992	18,646	Premium Gasoline	9,856	367	10,223	1.17	5.11
TK 010	1382	VFR	85	40	1,634,472	104.00	169,985,088	19,405	#2 Fuel Oil	187	1,261	1,448	0.17	0.72
TK 011	1383	IFR	85	40	1,569,540	104.00	163,232,160	18,634	Regular Gasoline	9,856	367	10,223	1.17	5.11
TK 012	1384	IFR	85	40	1,496,040	104.00	155,588,160	17,761	Regular Gasoline	7,556	376	7,932	0.91	3.97
TK 013	6008	VFR	60	40	815,724	104.00	84,835,296	9,684	#1 Fuel Oil	92	629	721	0.08	0.36
TK 014	6009	VFR	60	40	845,964	104.00	87,980,256	10,043	#1 Fuel Oil	92	638	730	0.08	0.36
TK 015	6010	VFR	60	40	815,136	104.00	84,774,144	9,677	#2 Fuel Oil	92	629	721	0.08	0.36
TK 016	6011	VFR	60	40	813,792	104.00	84,634,368	9,661	#2 Fuel Oil	92	628	720	0.08	0.36
TK 017	6012	VFR	60	40	815,388	104.00	84,800,352	9,680	#2 Fuel Oil	92	629	721	0.08	0.36
TK 018	186	VFR	25	24	88,116	2.00	176,232	20	Relief Tank	2,417	838	3,255	0.37	1.63
TK 019	183	VFR	25	24	77,196	104.00	8,028,384	916	Biodiesel	10	61	71	0.01	0.04
										51,685	33,767	85,452	9.75	42.73

**NOTES**

1. VFR is Vertical Fixed Roof, IFR is Internal Floating Roof, HFR is Horizontal Fixed Roof
2. Tank 157 (TK 003) is the low-pressure mainline relief tank.
3. TMP is trimethylpentane.



Magellan Pipeline Co., LP - Mankato Terminal  
Potential to Emit - February 2024  
Tanks in Normal Operation, HAP Emissions

EU	Tank No.	HAP Emissions (lb./hr.)						HAP Emissions (ton/yr.)					
		2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes	2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes
		0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC	0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC
TK 001	582	0.000	0.000	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.003	0.003	0.001
TK 002	583	0.000	0.000	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.003	0.003	0.001
TK 003	584	0.000	0.000	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.003	0.003	0.001
TK 004	585	0.024	0.027	0.003	0.049	0.040	0.015	0.107	0.120	0.013	0.213	0.173	0.067
TK 005	586	0.000	0.000	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.003	0.003	0.001
TK 006	1322	0.008	0.009	0.001	0.016	0.013	0.005	0.035	0.040	0.004	0.070	0.057	0.022
TK 007	1323	0.001	0.001	0.000	0.003	0.002	0.001	0.006	0.006	0.001	0.011	0.009	0.004
TK 008	1324	0.009	0.010	0.001	0.019	0.015	0.006	0.041	0.046	0.005	0.082	0.066	0.026
TK 009	1325	0.009	0.011	0.001	0.019	0.015	0.006	0.041	0.046	0.005	0.082	0.066	0.026
TK 010	1382	0.001	0.001	0.000	0.003	0.002	0.001	0.006	0.007	0.001	0.012	0.009	0.004
TK 011	1383	0.009	0.011	0.001	0.019	0.015	0.006	0.041	0.046	0.005	0.082	0.066	0.026
TK 012	1384	0.007	0.008	0.001	0.014	0.012	0.005	0.032	0.036	0.004	0.063	0.052	0.020
TK 013	6008	0.001	0.001	0.000	0.001	0.001	0.000	0.003	0.003	0.000	0.006	0.005	0.002
TK 014	6009	0.001	0.001	0.000	0.001	0.001	0.000	0.003	0.003	0.000	0.006	0.005	0.002
TK 015	6010	0.001	0.001	0.000	0.001	0.001	0.000	0.003	0.003	0.000	0.006	0.005	0.002
TK 016	6011	0.001	0.001	0.000	0.001	0.001	0.000	0.003	0.003	0.000	0.006	0.005	0.002
TK 017	6012	0.001	0.001	0.000	0.001	0.001	0.000	0.003	0.003	0.000	0.006	0.005	0.002
TK 018	186	0.003	0.003	0.000	0.006	0.005	0.002	0.013	0.015	0.002	0.026	0.021	0.008
TK 019	183	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
		0.078	0.088	0.010	0.156	0.127	0.049	0.342	0.385	0.043	0.684	0.555	0.214

NOTES

1. HAP speciation for normal gasoline from Table 3-2 of Gasoline Distribution Industry (Stage I) - Background Information for Proposed Standards, EPA-453/R-94-002a, January 1994.
2. 2,2,4 TMP is 2,2,4 trimethylpentane.

Magellan Pipeline Co., LP - Mankato Terminal  
Potential to Emit - February 2024  
Tank Cleaning Events

EU No.	Tank No.	Most Volatile Product Stored	VOC per Vapor Space Purge Event (lb/event)	VOC per Forced Ventilation Event (lb/event)	Total Cleaning VOC (ton/yr)	Hazardous Air Pollutants (ton/yr)						Hazardous Air Pollutants (lb/hr)					
						2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes	2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes
						0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC	0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC
TK 008	1324	Gasoline (RVP13)	1,694.92	6,516.02	4.11	0.03	0.04	0.00	0.07	0.05	0.02	1.37	1.54	0.17	2.74	2.22	0.86
TK 009	1325	Gasoline (RVP13)	1,694.92	6,516.02	4.11	0.03	0.04	0.00	0.07	0.05	0.02	1.37	1.54	0.17	2.74	2.22	0.86
TK 011	1383	Gasoline (RVP13)	1,694.92	6,516.02	4.11	0.03	0.04	0.00	0.07	0.05	0.02	1.37	1.54	0.17	2.74	2.22	0.86
Totals					12.32	0.10	0.11	0.01	0.20	0.16	0.06	4.11	4.62	0.51	8.21	6.67	2.57

NOTES

1. Emissions estimated using methods from AP-41 Ch. 7.1 Eqn. 4-2 for vapor space purge events and
2. The cleaning event emissions-estimating spreadsheet is included with the permit application as a document separate from this PTE spreadsheet.
3. TMP is trimethylpentane.
4. Conservatively estimating no more than 3 tanks will be cleaned in a given year. The 3 tanks calculated here represent the greatest emission generating tanks during a typical 2-day cleaning process.

Magellan Pipeline Co., LP - Mankato Terminal  
Potential to Emit - February 2024  
Tank Roof Landings

EU No.	Tank No.	Most Volatile Product Stored	VOC per Landing Event (lb/event)	Landing Events per Year	Roof Landing VOC (ton/yr)	Hazardous Air Pollutants (ton/yr)						Hazardous Air Pollutants (lb/hr)					
						2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes	2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes
						0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC	0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC
TK 006	1322	Regular Gasoline	1,692.90	2	1.69	0.01	0.02	1.69E-03	0.03	0.02	8.46E-03	0.19	0.21	0.02	0.38	0.31	0.12
TK 008	1324	Regular Gasoline	1,692.90	2	1.69	0.01	0.02	1.69E-03	0.03	0.02	8.46E-03	0.19	0.21	0.02	0.38	0.31	0.12
TK 009	1325	Premium Gasoline	1,692.90	2	1.69	0.01	0.02	1.69E-03	0.03	0.02	8.46E-03	0.19	0.21	0.02	0.38	0.31	0.12
TK 011	1383	Regular Gasoline	1,692.90	2	1.69	0.01	0.02	1.69E-03	0.03	0.02	8.46E-03	0.19	0.21	0.02	0.38	0.31	0.12
TK 012	1384	Regular Gasoline	1,692.90	2	1.69	0.01	0.02	1.69E-03	0.03	0.02	8.46E-03	0.19	0.21	0.02	0.38	0.31	0.12
Totals					8.46	0.07	0.08	8.46E-03	0.14	0.11	0.04	0.94	1.06	0.118	1.88	1.53	0.59

NOTES

1. Emissions estimated using methods from AP-42 Section 7.1.3.2.2 TankESP, assuming two 3-day roof landings per tank occurring in April.
2. The roof-landings emissions-estimating spreadsheet is included with the permit application as a document separate from this PTE spreadsheet.

**Magellan Pipeline Co., LP - Mankato Terminal**  
**Potential to Emit - February 2024**  
**Equipment Fugitives**

Component	Component Count	VOC Emission Factor (lb/hr/component)	VOC (ton/yr)	Potential HAP Emissions (ton/yr)					
				2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes
				0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC
Pump Seals (liquid)	10	1.19E-03	0.052	4.17E-04	4.69E-04	5.21E-05	8.34E-04	6.78E-04	2.61E-04
Flange Sets	390	1.80E-05	0.031	2.46E-04	2.77E-04	3.07E-05	4.92E-04	4.00E-04	1.54E-04
Loading Rack Valves (Vapor)	0	2.90E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loading Rack Valves (Liquid)	46	9.50E-05	0.019	1.53E-04	1.72E-04	1.91E-05	3.06E-04	2.49E-04	9.57E-05
Other Valves (Liquid)	101	2.90E-04	0.128	1.03E-03	1.15E-03	1.28E-04	2.05E-03	1.67E-03	6.41E-04
Open Ended lines (Gas)	0	6.70E-03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>			<b>0.23</b>	<b>1.84E-03</b>	<b>2.07E-03</b>	<b>2.30E-04</b>	<b>3.68E-03</b>	<b>2.99E-03</b>	<b>1.15E-03</b>

**NOTES**

1. All emission factors are from Table 2-3 of EPA Bulletin 453/R-95-017, *Protocol for Equipment Leak Emission Estimates*, November 1995
2. HAP speciation for normal gasoline from Table 3-2 of Gasoline Distribution Industry (Stage I) - Background Information for Proposed Standards, EPA-453/R-94-002a, January 1994.
3. TMP is trimethylpentane.
4. Input values for component count and emission factors taken from air emission permit No. 01300017-008 Amended Date July 7th 2014.

Magellan Pipeline Co., LP - Mankato Terminal  
Potential to Emit - February 2024  
Small Tanks Potential to Emit

EU	Tank No.	Tank Type	Regulatory Status	Diameter (ft)	Height or Length (ft)	Capacity (gal)	Annual Tank Turnovers	Throughput (gal/yr)	Most Volatile Product Stored	VOC Emissions				
										Standing (lb/yr)	Working (lb/yr)	Total (lb/yr)	Total (lb/yr)	Total (ton/yr)
Additive Tanks	208-20	HFR	Insignificant	6.50	8.00	1,986	12.00	23,830	Jet Naphtha	29.24	44.21	73.45	0.008	0.04
Additive Tanks	208-21	HFR	Insignificant	6.70	12.00	3,163	12.00	37,978	Jet Naphtha	46.87	70.47	117.34	0.013	0.06
Additive Tanks	208-120	HFR	Insignificant	6.00	10.00	329	12.00	3,948	Jet Naphtha	31.46	7.33	38.79	0.004	0.02
Additive Tanks	208-130	VFR	Insignificant	7.40	13.98	4,498	12.00	53,973	Jet Naphtha	55.72	100.14	155.86	0.018	0.08
Additive Tanks	208-132	VFR	Insignificant	6.00	10.20	2,157	12.00	25,888	Jet Naphtha	28.79	48.03	76.82	0.009	0.04
Additive Tanks	208-133	VFR	Insignificant	5.30	6.00	990	12.00	11,882	Jet Naphtha	14.51	22.05	36.56	0.004	0.02
Additive Tanks	208-160	VFR	Insignificant	5.30	18.11	2,989	12.00	35,865	Jet Naphtha	34.26	66.55	100.80	0.012	0.05
Additive Tanks	208-250	VFR	Insignificant	6.00	10.00	2,115	12.00	25,381	Jet Naphtha	31.46	47.09	78.55	0.009	0.04
Additive Tanks	208-134	HFR	Insignificant	4.00	6.00	564	12.00	6,768	Jet Naphtha	8.23	12.56	20.79	0.002	0.01
Additive Tanks	208-61	HFR	Insignificant	8.00	10.50	3,948	12.00	47,378	Jet Naphtha	52.51	87.90	140.41	0.016	0.07
<b>Totals</b>										<b>333.04</b>	<b>506.33</b>	<b>599.622</b>	<b>0.068</b>	<b>0.310</b>

EU	Tank No.	HAP Emissions (lb/hr)						HAP Emissions (ton/yr)					
		2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes	2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes
		0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC	0.80% of VOC	0.90% of VOC	0.10% of VOC	1.60% of VOC	1.30% of VOC	0.50% of VOC
Additive Tanks	208-20	6.71E-05	7.55E-05	8.38E-06	1.34E-04	1.09E-04	4.19E-05	3.20E-04	3.60E-04	4.00E-05	6.40E-04	5.20E-04	2.00E-04
Additive Tanks	208-21	1.07E-04	1.21E-04	1.34E-05	2.14E-04	1.74E-04	6.70E-05	4.80E-04	5.40E-04	6.00E-05	9.60E-04	7.80E-04	3.00E-04
Additive Tanks	208-120	3.54E-05	3.99E-05	4.43E-06	7.08E-05	5.76E-05	2.21E-05	1.60E-04	1.80E-04	2.00E-05	3.20E-04	2.60E-04	1.00E-04
Additive Tanks	208-130	1.42E-04	1.60E-04	1.78E-05	2.85E-04	2.31E-04	8.90E-05	6.40E-04	7.20E-04	8.00E-05	1.28E-03	1.04E-03	4.00E-04
Additive Tanks	208-132	7.02E-05	7.89E-05	8.77E-06	1.40E-04	1.14E-04	4.38E-05	3.20E-04	3.60E-04	4.00E-05	6.40E-04	5.20E-04	2.00E-04
Additive Tanks	208-133	3.34E-05	3.76E-05	4.17E-06	6.68E-05	5.43E-05	2.09E-05	1.60E-04	1.80E-04	2.00E-05	3.20E-04	2.60E-04	1.00E-04
Additive Tanks	208-160	9.21E-05	1.04E-04	1.15E-05	1.84E-04	1.50E-04	5.75E-05	4.00E-04	4.50E-04	5.00E-05	8.00E-04	6.50E-04	2.50E-04
Additive Tanks	208-250	7.02E-05	7.89E-05	8.77E-06	1.40E-04	1.14E-04	4.38E-05	3.20E-04	3.60E-04	4.00E-05	6.40E-04	5.20E-04	2.00E-04
Additive Tanks	208-134	3.34E-05	3.76E-05	4.17E-06	6.68E-05	5.43E-05	2.09E-05	8.00E-05	9.00E-05	1.00E-05	1.60E-04	1.30E-04	5.00E-05
Additive Tanks	208-61	9.21E-05	1.04E-04	1.15E-05	1.84E-04	1.50E-04	5.75E-05	5.60E-04	6.30E-04	7.00E-05	1.12E-03	9.10E-04	3.50E-04
<b>Totals</b>		<b>7.43E-04</b>	<b>8.36E-04</b>	<b>9.29E-05</b>	<b>1.49E-03</b>	<b>1.21E-03</b>	<b>4.64E-04</b>	<b>3.44E-03</b>	<b>3.87E-03</b>	<b>4.30E-04</b>	<b>6.88E-03</b>	<b>5.59E-03</b>	<b>2.15E-03</b>

**NOTES**

1. VFR is Vertical Fixed Roof, HFR is Horizontal Fixed Roof
2. HAP speciation for normal gasoline from Table 3-2 of Gasoline Distribution Industry (Stage I) - Background Information for Proposed Standards, EPA-453/R-94-002a, January 1994.
3. TMP is trimethylpentane.

**Mankato, MN Terminal**  
**Potential to Emit - Butane Unloading, Sampling, and System Maintenance**

Summary of Potential VOC Emissions for three (3) Butane Unloading Stations

Emissions Source	Potential VOC Emissions			
	Truck Unloading	Sample Tee Purging	Maintenance	Total
Butane Station 1	0.062	0.02	0.05	0.13
Butane Station 2	0.062	0.02	0.05	0.13
Butane Station 3	0.062	0.02	0.05	0.13
Totals	0.19	0.05	0.15	0.38

**Butane Unloading Emissions per Station**

Potential emissions from butane-unloading are estimated using the following equation:  $Maximum\ Hourly\ Emissions = V * D * E_H$

V = Hose volume (ft<sup>3</sup>)

Annual Emissions = V \* D \* E<sub>A</sub>

D = Density of Butane (lb/gal)

E<sub>A</sub> = Events per Year

E<sub>H</sub> = Events per Hour

Emission Source	Diameter (in)	Length (ft)	Volume (ft <sup>3</sup> )	Volume (gal)	Density (lb/gal)	Events per Year	Potential to Emit (ton/yr)
Butane Truck Unloading	2	1.50	0.03	0.245	5.06	100	0.06

**Butane Sample Tee Purging Emissions per Station**

Potential emissions from butane sample-tee purging are estimated using the following equation:  $Maximum\ Hourly\ Emissions = V * D * E_H$

V = Tee volume (ft<sup>3</sup>)

The estimate is based on the following assumptions:

Purged tubing volume, ft <sup>3</sup>	0.0177
Purges per hr	1
Purges per year	50
Maximum annual purge volume, ft <sup>3</sup> /yr	0.8829

Volume (ft <sup>3</sup> )	Volume (gal)	Density (lb/gal)	Potential to Emit (ton/yr)
0.0177	0.132	5.06	0.02

**Butane Routine Maintenance Emissions per Station**

Potential emissions from butane system maintenance are estimated using the following equation:  $Maximum\ Hourly\ Emissions = V * D * E_H$

V = Hose volume (ft<sup>3</sup>)

Emission Source	Diameter (in)	Length (ft)	Volume (ft <sup>3</sup> )	Volume (gal)	Density (lb/gal)	Events per Year	Potential to Emit (ton/yr)
Butane System Routine Maintenance	2	20.00	0.44	3.264	5.06	6	0.05

**Magellan Pipeline Co., LP - Mankato Terminal**

**Potential to Emit - February 2024**

**Ethanol Unloading**

Unloading pipe diameter	16.00	inches
Unloading pipe diameter	1.33	feet
Unloading pipe length	8.00	feet
Unloading pipe volume	11.17	ft <sup>3</sup>
Volume loaded while pipe is venting	55.71	gallon/unloading-event
Maximum unloading tanker volume	8,000	gallon
Gasoline loading rate/limit	220,752,000	gallon/year
Max.unloading rate (10% of gasoline rate)	22,075,200	gallon/year
Maximum number of trucks unloaded	2,759	ETOH trucks/year
Volume loaded while pipe is venting	153.713	1000-gallon/year
Molecular weight, M	48.86	lb/lb-mole
Saturation factor, S (AP-42 Table 5.2-1)	0.60	dimensionless
Vapor pressure of ethanol, P	0.94	psia
Mean temperature of liquid unloaded, T	46.30	°F
Loading loss factor L <sub>L</sub>		lb VOC/1000-gal- ethanol loaded into pipe.
	0.68	
	104.24	lb/yr
	0.012	lb/hr
Potential VOC emissions from venting ethanol delivery pipe	0.052	ton/year

**HAP Emissions**

	2,2,4 TMP	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes
Gasoline % of VOC	0.800%	0.900%	0.100%	1.600%	1.300%	0.500%
Denatured Ethanol % of VOC	0.016%	0.018%	0.002%	0.032%	0.026%	0.010%
Potential HAP Emissions (ton/yr)	8.34E-06	9.38E-06	1.04E-06	1.67E-05	1.36E-05	5.21E-06
Potential HAP Emissions (lb/hr)	1.90E-06	2.14E-06	2.38E-07	3.81E-06	3.09E-06	1.19E-06

**NOTES**

1. Denatured ethanol includes up to 2% gasoline as denaturant. Therefore, potential HAP fractions are 2% of those used for gasoline.
2. TMP is trimethylpentane.
3. Input values taken from Air Emission Permit No. 01300017-008 Amended Date July 7th 2014.



**Magellan Pipeline Co., LP - Mankato Terminal**  
**Potential to Emit - February 2024**  
**Greenhouse Gases**

**Physical Properties and Emissions Factors**

Fuel Combusted in VCU	Liquid Density (lb./gal)	High Heating Value (HHV)		GHG Emissions Factors (ton/MMBtu)			GHG Emissions Factors (lb/MMBtu)		
		(MMBtu/gal)	(MMBtu/ft <sup>3</sup> )	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Gasoline	6.20	0.125		0.0709	3.10E-06	6.01E-07	156.3078	0.0068	0.0013
Natural gas			1.020E-03	0.0531	9.50E-07	9.50E-08	117.0655	0.0021	0.0002

**Greenhouse Gases from Combusting Fuel Vapors in the VCU**

Fuel Combusted	Weight of Vapors Combusted (ton/yr)	Liquid Volume of Vapors Combusted (gal/yr)	Energy of Vapors Combusted (MMBtu/yr)	CO <sub>2</sub> (ton/yr)	CH <sub>4</sub> (ton/yr)	N <sub>2</sub> O (ton/yr)
Gasoline vapor	905.41	292,069	36,509	2,853.29	0.12	2.42E-02

**Greenhouse Gas Emissions from Combusting Natural Gas in the VCU Pilot**

Fuel Combusted	Volume of Gas Combusted <sup>2</sup> (ft <sup>3</sup> /yr)	Energy of Gas Combusted (MMBtu/yr)	CO <sub>2</sub> (ton/yr)	CH <sub>4</sub> (ton/yr)	N <sub>2</sub> O (ton/yr)
Natural gas	525,600.00	536	31.38	5.61E-04	5.61E-05

**Total Greenhouse Gas Emissions**

Pollutant	PTE-Mass Basis (ton/yr)	Global Warming Potential	PTE- CO <sub>2</sub> e (ton/yr)
CO <sub>2</sub>	2,884.67	1.00	2,884.67
CH <sub>4</sub>	0.13	25.00	3.13
N <sub>2</sub> O	0.024	298.00	7.22
<b>Totals</b>	2,884.82		2,895.03

**NOTES**

1. Emission Factors and heating values from Tables 4-3 and 4-5 of *Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry* , Aug. 2009.
2. Based on data from the VCU manufacturer of continuous feed of 1 scfm for the VCU pilot.
3. Global Warming Potential values from Table 3-1 of *Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry* , Aug. 2009.
4. Global Warming Potential Values are consistent with current values in the Intergovernmental Panel on Climate Change (IPCC)'s fourth assessment (AR4).  
 These are the latest values used in GHG inventory reporting.

## **Actual Emissions Summary Tables**

**RY2022**

Facility: Magellan Pipeline Co LP - Mankato  
Facility ID: 01300017 (AI ID 586)  
Inventory Year: 2022

Unit ID	Subject Item	Unit Desc	Process ID	Proc Desc	SCC	Pollutant	Emissions Calculation Method	Throughput Material	Throughput Amount	Throughput Units	Emission Factor	EF Units	Capt (%)	Cont (%)	Total Comb (%)	Emissions	Original Emissions	Emiss Units
EU001	EQUI1	Truck Loading Rack	EU001PD001	Gasoline Loading Rack	40600131	VOC	STACK TEST NCE	GASOLINE	51,021.00	E3GAL	3.015E-1	LB/E3GAL	98.7	95.1	95.1	7.691	7.691	TON
EU001	EQUI1	Truck Loading Rack	EU001PD002	Fuel Oil Loading Rack	40600135	VOC	OTHER EF CE	DISTILLATE	53,049.00	E3GAL	1.320E-2	LB/E3GAL	98.7	95.1	95.1	0.02148	0.02148	TON
EU001	EQUI1	Truck Loading Rack	EU001PD003	Ethanol Loading Rack	40600131	VOC	STACK TEST NCE	GASOLINE	6,186.00	E3GAL	3.015E-1	LB/E3GAL	98.7	95.1	95.1	0.9325	0.9325	TON
EU001	EQUI1	Truck Loading Rack	EU001PD004	Biodiesel Loading Rack	40600199	VOC	OTHER EF CE	LIQUID,PETRO	5,439.00	E3GAL	2.790E-1	LB/E3GAL	98.7	95.1	95.1	0.04656	0.04656	TON
EU001	EQUI1	Truck Loading Rack	EU001PD005	VCU Losses	40400153	CO	MANUFAC SPEC	LIQUID,PETRO	115,694.00	E3GAL	8.350E-2	LB/E3GAL				4.83	4.83	TON
EU001	EQUI1	Truck Loading Rack	EU001PD005	VCU Losses	40400153	NOX	MANUFAC SPEC	LIQUID,PETRO	115,694.00	E3GAL	3.340E-2	LB/E3GAL				1.932	1.932	TON
EU001	EQUI1	Truck Loading Rack	EU001PD005	VCU Losses	40400153	VOC	OTHER EF NCE	LIQUID,PETRO	115,694.00	E3GAL	0.000E+0	LB/E3GAL	98.7	95.1	95.1	0.00	0.00	TON
FS001	FUGI1	Gasoline Service - Valves, Flanges, Pumps, Connectors	FS001PD001	Fugitive VOCs	40400151	VOC	ENG JUDGMENT	EQUIPMENT	8,760.00	HR						0.3	0.3	TON
TK004	EQUI11	Ethanol; Tank 585	TK004PD001	Storage capacity	40700809	VOC	ENG JUDGMENT	ETHANOL	1,570.00	E3GAL-YR						1.34	1.34	TON
TK004	EQUI11	Ethanol; Tank 585	TK004PD002	Throughput	40700810	VOC	ENG JUDGMENT	ETHANOL	9,833.00	E3GAL						1.51	1.51	TON
TK006	EQUI10	Regular Gasoline; Tank 1322	TK006PD001	Storage capacity	40301151	VOC	ENG JUDGMENT	GASOLINE	84.00	E3GAL-YR						4.21	4.21	TON
TK006	EQUI10	Regular Gasoline; Tank 1322	TK006PD002	Throughput	40400116	VOC	ENG JUDGMENT	GASOLINE	85,414.00	E3GAL						0.01	0.01	TON
TK008	EQUI8	Regular Gasoline; Tank 1324	TK008PD001	Storage capacity	40301151	VOC	ENG JUDGMENT	GASOLINE	458.00	E3GAL-YR						4.93	4.93	TON
TK008	EQUI8	Regular Gasoline; Tank 1324	TK008PD002	Throughput	40400116	VOC	ENG JUDGMENT	GASOLINE	38,562.00	E3GAL						0.01	0.01	TON
TK009	EQUI9	Premium Gasoline; Tank 1325	TK009PD001	Storage capacity	40301151	VOC	ENG JUDGMENT	GASOLINE	458.00	E3GAL-YR						4.93	4.93	TON
TK009	EQUI9	Premium Gasoline; Tank 1325	TK009PD002	Throughput	40400116	VOC	ENG JUDGMENT	GASOLINE	10,759.00	E3GAL						0.005	0.005	TON
TK009	EQUI9	Premium Gasoline; Tank 1325	TK009PD003	Tank Lan	40301151	VOC	USEPA EF NCE	EQUIPMENT	1.00	EACH	2.305E+2	LB/EACH				0.1152	0.1152	TON
TK011	EQUI6	Regular Gasoline; Tank 1383	TK011PD001	Storage capacity	40301151	VOC	ENG JUDGMENT	GASOLINE	458.00	E3GAL-YR						4.93	4.93	TON
TK011	EQUI6	Regular Gasoline; Tank 1383	TK011PD002	Throughput	40400116	VOC	ENG JUDGMENT	GASOLINE	51,194.00	E3GAL						0.01	0.01	TON
TK012	EQUI7	Regular Gasoline; Tank 1384	TK012PD001	Storage capacity	40301151	VOC	ENG JUDGMENT	GASOLINE	458.00	E3GAL-YR						3.78	3.78	TON
TK012	EQUI7	Regular Gasoline; Tank 1384	TK012PD002	Throughput	40400116	VOC	ENG JUDGMENT	GASOLINE	26,470.00	E3GAL						0.01	0.01	TON

Total(TON)

AMMONIA	0.000
CO	4.830
LEAD <sup>1</sup>	0.000
PM25-FIL	0.000
PM-FIL	0.000
PM10-FIL <sup>1,2</sup>	0.000
PM-CON <sup>1,2</sup>	0.000
NOX <sup>1</sup>	1.932
SO2 <sup>1</sup>	0.000
VOC <sup>1</sup>	34.782
<sup>1</sup> Total Billable	36.714

<sup>2</sup>PM10 Primary = PM Condensable + PM10 Filterable

Facility: Magellan Pipeline Co LP - Mankato  
Facility ID: 01300017 (AI ID 586)  
Inventory Year: 2022

Unit ID	Subject Item	Unit Desc	Process ID	Proc Desc	Hazardous Air Pollutants (ton/yr)					
					2,2,4-Trimethyl pentane	Benzene	Ethylbenzene	Hexane	Toluene	Total Xylenes
					0.8% of VOC	0.9% of VOC	0.1% of VOC	1.6% of VOC	1.3% of VOC	0.5% of VOC
EU001	EQUI1	Truck Loading Rack	EU001PD001	Gasoline Loading Rack	6.15E-02	6.92E-02	7.69E-03	1.23E-01	1.00E-01	3.85E-02
EU001	EQUI1	Truck Loading Rack	EU001PD002	Fuel Oil Loading Rack	1.72E-04	1.93E-04	2.15E-05	3.44E-04	2.79E-04	1.07E-04
EU001	EQUI1	Truck Loading Rack	EU001PD003	Ethanol Loading Rack	7.46E-03	8.39E-03	9.33E-04	1.49E-02	1.21E-02	4.66E-03
EU001	EQUI1	Truck Loading Rack	EU001PD004	Biodiesel Loading Rack	3.72E-04	4.19E-04	4.66E-05	7.45E-04	6.05E-04	2.33E-04
EU001	EQUI1	Truck Loading Rack	EU001PD005	VCU Losses						
EU001	EQUI1	Truck Loading Rack	EU001PD005	VCU Losses						
EU001	EQUI1	Truck Loading Rack	EU001PD005	VCU Losses	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FS001	FUG1	Gasoline Service - Valves, Flanges, Pumps, Connectors	FS001PD001	Fugitive VOCs	2.40E-03	2.70E-03	3.00E-04	4.80E-03	3.90E-03	1.50E-03
TK004	EQUI11	Ethanol; Tank 585	TK004PD001	Storage capacity	1.07E-02	1.21E-02	1.34E-03	2.14E-02	1.74E-02	6.70E-03
TK004	EQUI11	Ethanol; Tank 585	TK004PD002	Throughput	1.21E-02	1.36E-02	1.51E-03	2.42E-02	1.96E-02	7.55E-03
TK006	EQUI10	Regular Gasoline; Tank 1322	TK006PD001	Storage capacity	3.37E-02	3.79E-02	4.21E-03	6.74E-02	5.47E-02	2.11E-02
TK006	EQUI10	Regular Gasoline; Tank 1322	TK006PD002	Throughput	8.00E-05	9.00E-05	1.00E-05	1.60E-04	1.30E-04	5.00E-05
TK008	EQUI8	Regular Gasoline; Tank 1324	TK008PD001	Storage capacity	3.94E-02	4.44E-02	4.93E-03	7.89E-02	6.41E-02	2.47E-02
TK008	EQUI8	Regular Gasoline; Tank 1324	TK008PD002	Throughput	8.00E-05	9.00E-05	1.00E-05	1.60E-04	1.30E-04	5.00E-05
TK009	EQUI9	Premium Gasoline; Tank 1325	TK009PD001	Storage capacity	3.94E-02	4.44E-02	4.93E-03	7.89E-02	6.41E-02	2.47E-02
TK009	EQUI9	Premium Gasoline; Tank 1325	TK009PD002	Throughput	4.00E-05	4.50E-05	5.00E-06	8.00E-05	6.50E-05	2.50E-05
TK009	EQUI9	Premium Gasoline; Tank 1325	TK009PD003	Tank Lan	9.22E-04	1.04E-03	1.15E-04	1.84E-03	1.50E-03	5.76E-04
TK011	EQUI6	Regular Gasoline; Tank 1383	TK011PD001	Storage capacity	3.94E-02	4.44E-02	4.93E-03	7.89E-02	6.41E-02	2.47E-02
TK011	EQUI6	Regular Gasoline; Tank 1383	TK011PD002	Throughput	8.00E-05	9.00E-05	1.00E-05	1.60E-04	1.30E-04	5.00E-05
TK012	EQUI7	Regular Gasoline; Tank 1384	TK012PD001	Storage capacity	3.02E-02	3.40E-02	3.78E-03	6.05E-02	4.91E-02	1.89E-02
TK012	EQUI7	Regular Gasoline; Tank 1384	TK012PD002	Throughput	8.00E-05	9.00E-05	1.00E-05	1.60E-04	1.30E-04	5.00E-05
					0.28	0.31	0.03	0.56	0.45	0.17

## **Attachment 2**

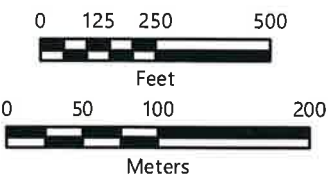
### **Ambient Air Quality Analysis**



Barr Footer: ArcGIS 10.8.1, 2024-02-08 13:23 File: \\Client\Magellan\_Midstream\Work\_Orders\Mankato 23071040\Maps\Reports\Capped\_Air... Figure 1 Facility Boundary Diagram Mankato 2024.mxd User: MAK3



- Vapor Combustion Unit (VCU)
- Facility Boundary



FACILITY BOUNDARY DIAGRAM  
Capped Permit Application  
Ambient Air Quality Assessment  
Magellan Mankato Terminal  
Mankato, MN

FIGURE 1



# Attachment 1 CAPS Spreadsheet

Yellow cells = required inputs (for each stack/vent considered--inputs not required for unused stacks)

White cells = optional inputs

All other cells locked

Screening Date:	2/1/2024
AQ Facility ID No.:	01300017
Facility Name:	Magellan Pipeline Co LP - Mankato
Facility Location:	Mankato, MN
Address:	55199 State Highway 68
Address (cont'd)	Mankato, MN 56001

Criteria Pollutant Screening Results Table				
Chemical	Fraction of 1-hr std	Fraction of 3-hr std	Fraction of 24-hr std	Fraction of annual std
SO <sub>2</sub>				
NO <sub>2</sub>				0.049
PM <sub>10</sub>				

Emissions		Stack(s)#1		Stack(s)#2		Stack(s)#3		Stack(s)#4		Stack(s)#5		Stack(s)#6		Stack(s)#7	
	Optional stack description >>>	VCU													
Pollutant Name	Total annual emissions (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)
SO <sub>2</sub>															
NO <sub>2</sub>	3.69		3.69												
PM <sub>10</sub>															

Default Dispersion Factors	notes	Stack(s)#1	Stack(s)#2	Stack(s)#3	Stack(s)#4	Stack(s)#5	Stack(s)#6	Stack(s)#7
Stack height (1-99 m)	required for lookup	13.72						
Distance to property line (10-10,000 m)	required for lookup	80.3						
1-hr dispersion factor	automatic lookup	1739						
3-hr dispersion factor	automatic lookup	1160						
24-hr dispersion factor	automatic lookup	394						
Annual dispersion factor	automatic lookup	.48						
Optional Specific Dispersion Factors*	notes	Stack(s)#1	Stack(s)#2	Stack(s)#3	Stack(s)#4	Stack(s)#5	Stack(s)#6	Stack(s)#7
1-hr dispersion factor	enter dispersion factors manually							
3-hr dispersion factor	enter dispersion factors manually							
24-hr dispersion factor	enter dispersion factors manually							
Annual dispersion factor	enter dispersion factors manually							

\*Optional specific dispersion factors refers to dispersion factors developed via an external method such as the DISPERSE batch process, the SCREEN3 model or other screening or refined air dispersion modeling. After developing the dispersion factors they are entered manually on this sheet. If the optional specific dispersion factors cells are filled in, they are used preferentially over the Default Dispersion Factors lookup table values above.



STORAGE TANK EQUIPMENT VARIABLES			Time Period:		ANNUAL		Minimum		Maximum	
Company =		Magellan Pipeline Co.	Daily Total Solar Insolation =		1170		Daily Ambient Temperature:		35.2 54.2	
Location=		MANKATO-MN	Tank-specific variables that are independent of the stored liquid.							
Tank Identification Number			1322	1323	1324	1325	1382	1383	1384	183
Standing Storage Loss Variables										
Tank Diameter (feet)			85.0	85.0	85.0	85.0	85.0	85.0	85.0	25.0
Tank Height (feet)			40.0	40.0	40.0	40.0	40.0	40.0	40.0	24.0
max. fill height (ft) =			38	38	38	38	38	38	38	22
given			given	given	given	given	given	given	given	given
min. liquid level (depth of heel) (ft) =			4	1	4	4	1	4	4	1
given			given	given	given	given	given	given	given	given
slope of the cone roof =			0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
assumes a cone roof, for purposes of computing Hvo			default	default	default	default	default	default	default	default
net working height (ft) =			34	37	34	34	37	34	34	21
assumed average height of the vapor space, Hvo (ft) =			19.89	21.39	19.89	19.89	21.39	19.89	19.89	12.76
Tank Finish										
Shell Finish (enter code)			K	K	K	K	K	K	K	K
finish =			white paint	white paint	white paint	white paint	white paint	white paint	white paint	white paint
alpha =			0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Roof Finish (enter code)			K	K	K	K	K	K	K	K
finish =			white paint	white paint	white paint	white paint	white paint	white paint	white paint	white paint
alpha =			0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
average alpha =			0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
good poor										
A aluminum-colored paint (specular)			0.39	0.49						
B aluminum-colored paint (diffuse)			0.60	0.68						
C beige/cream-colored paint			0.35	0.49						
D brown paint			0.58	0.67						
E light gray paint			0.54	0.63						
F medium gray paint			0.68	0.74						
G dark green paint			0.89	0.91						
H red primer			0.89	0.91						
I rust (unpainted iron oxide)			0.38	0.50						
J tan paint			0.43	0.55						
K white paint			0.17	0.34						
L mill finish aluminum (unpainted)			0.10	0.15						
Gauge Pressure (normal operations)										
nominal operating pressure (psig) =			0	0	0	0	0	0	0	0
minimum gauge pressure (psig) =			-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Pbp = maximum gauge pressure (psig):			0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
delta Pb = vent pressure range (psi):			0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Tank Temperature (ambient daily averages)										
Tb = bulk liquid temperature (F):			44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7
from ambient			from ambient	from ambient	from ambient	from ambient	from ambient	from ambient	from ambient	from ambient
Is the tank heated (i.e., kept at a constant temperature)?			No	No	No	No	No	No	No	No
delta Tv = temperature range in the vapor space (F):			19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
Tla = liquid surface temperature (F):			46.3	46.3	46.3	46.3	46.3	46.3	46.3	46.3

# STORAGE TANK EQUIPMENT VARIABLES

Company =		Magellan Pipeline Co.							
Location=		MANKATO-MN							
Tank Identification Number		186	582	583	584	585	586	6008	6009
Standing Storage Loss Variables									
Tank Diameter (feet)		25.0	45.0	45.0	45.0	45.0	45.0	60.0	60.0
Tank Height (feet)		24.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
max. fill height (ft) =		22	38	38	38	38	38	38	38
given		given	given	given	given	given	given	given	given
min. liquid level (depth of heel) (ft) =		1	1	1	1	1	1	1	1
given		given	given	given	given	given	given	given	given
slope of the cone roof =		0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
<i>assumes a cone roof, for purposes of computing Hvo</i>		default	default	default	default	default	default	default	default
net working height (ft) =		21	37	37	37	37	37	37	37
assumed average height of the vapor space, Hvo (ft) =		12.76	20.97	20.97	20.97	20.97	20.97	21.13	21.13
Tank Finish									
Shell Finish (enter code)		K	K	K	K	K	K	K	K
finish =		white paint	white paint	white paint	white paint	white paint	white paint	white paint	white paint
alpha =		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Roof Finish (enter code)		K	K	K	K	K	K	K	K
finish =		white paint	white paint	white paint	white paint	white paint	white paint	white paint	white paint
alpha =		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
average alpha =		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
<div> <div>good</div> <div>poor</div> </div> <div> <div>A</div> <div>aluminum-colored paint (specular)</div> <div>0.39</div> <div>0.49</div> </div> <div> <div>B</div> <div>aluminum-colored paint (diffuse)</div> <div>0.60</div> <div>0.68</div> </div> <div> <div>C</div> <div>beige/cream-colored paint</div> <div>0.35</div> <div>0.49</div> </div> <div> <div>D</div> <div>brown paint</div> <div>0.58</div> <div>0.67</div> </div> <div> <div>E</div> <div>light gray paint</div> <div>0.54</div> <div>0.63</div> </div> <div> <div>F</div> <div>medium gray paint</div> <div>0.68</div> <div>0.74</div> </div> <div> <div>G</div> <div>dark green paint</div> <div>0.89</div> <div>0.91</div> </div> <div> <div>H</div> <div>red primer</div> <div>0.89</div> <div>0.91</div> </div> <div> <div>I</div> <div>rust (unpainted iron oxide)</div> <div>0.38</div> <div>0.50</div> </div> <div> <div>J</div> <div>tan paint</div> <div>0.43</div> <div>0.55</div> </div> <div> <div>K</div> <div>white paint</div> <div>0.17</div> <div>0.34</div> </div> <div> <div>L</div> <div>mill finish aluminum (unpainted)</div> <div>0.10</div> <div>0.15</div> </div>									
Gauge Pressure (normal operations)									
nominal operating pressure (psig) =		0	0	0	0	0	0	0	0
minimum gauge pressure (psig) =		-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Pbp = maximum gauge pressure (psig):		0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
delta Pb = vent pressure range (psi):		0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Tank Temperature (ambient daily averages)									
Tb = bulk liquid temperature (F):		44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7
from ambient		from ambient	from ambient	from ambient	from ambient	from ambient	from ambient	from ambient	from ambient
Is the tank heated (i.e., kept at a constant temperature)?		No	No	No	No	No	No	No	No
delta Tv = temperature range in the vapor space (F):		19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
Tla = liquid surface temperature (F):		46.3	46.3	46.3	46.3	46.3	46.3	46.3	46.3

Company =	Magellan Pipeline Co.
Location=	MANKATO-MN

form design by Rob Ferry, the TGB partnership

# STORAGE TANK EQUIPMENT VARIABLES

Company =		Magellan Pipeline Co.						
Location=		MANKATO-MN						

Tank Identification Number	208-120	208-130	208-132	208-133	208-160	208-250	208-134	208-61
Standing Storage Loss Variables								
Tank Diameter (feet)	8.7	7.4	6.0	5.3	5.3	8.7	4.0	8.0
Tank Height (feet)	4.7	14.0	10.2	6.0	18.1	4.7	6.0	10.5
max. fill height (ft) =	3.7	12.98	9.2	5	17.11	3.7	5	9.5
given	given	given	given	given	given	given	given	given
min. liquid level (depth of heel) (ft) =	1	1	1	1	1	1	1	1
given	given	given	given	given	given	given	given	given
slope of the cone roof =	0	0.75	0.75	0.75	0.75	0	0.75	0.75
assumes a cone roof, for purposes of computing Hvo	default	default	default	default	default	default	default	default
net working height (ft) =	2.7	11.98	8.2	4	16.11	2.7	4	8.5
assumed average height of the vapor space, Hvo (ft) =	2.36	7.07	5.16	3.06	9.11	2.36	3.04	5.33
Tank Finish								
Shell Finish (enter code)	K	K	K	K	K	K	K	K
finish =	white paint	white paint	white paint	white paint	white paint	white paint	white paint	white paint
alpha =	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Roof Finish (enter code)	K	K	K	K	K	K	K	K
finish =	white paint	white paint	white paint	white paint	white paint	white paint	white paint	white paint
alpha =	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
average alpha =	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
good								
poor								
A aluminum-colored paint (specular)	0.39	0.49						
B aluminum-colored paint (diffuse)	0.60	0.68						
C beige/cream-colored paint	0.35	0.49						
D brown paint	0.58	0.67						
E light gray paint	0.54	0.63						
F medium gray paint	0.68	0.74						
G dark green paint	0.89	0.91						
H red primer	0.89	0.91						
I rust (unpainted iron oxide)	0.38	0.50						
J tan paint	0.43	0.55						
K white paint	0.17	0.34						
L mill finish aluminum (unpainted)	0.10	0.15						
Gauge Pressure (normal operations)								
nominal operating pressure (psig) =	0	0	0	0	0	0	0	0
minimum gauge pressure (psig) =	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Pbp = maximum gauge pressure (psig):	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
delta Pb = vent pressure range (psi):	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Tank Temperature (ambient daily averages)								
Tb = bulk liquid temperature (F):	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7
from ambient	from ambient	from ambient	from ambient	from ambient	from ambient	from ambient	from ambient	from ambient
Is the tank heated (i.e., kept at a constant temperature)?	No	No	No	No	No	No	No	No
delta Tv = temperature range in the vapor space (F):	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
Tla = liquid surface temperature (F):	46.3	46.3	46.3	46.3	46.3	46.3	46.3	46.3

FLOATING ROOF EQUIPMENT FACTORS		Tank-specific loss factors for determining the standing storage component of floating-roof tank emissions.
1	Design of floating roof	0.10 to 0.20
2	Age of floating roof	0.10 to 0.20
3	Condition of floating roof	0.10 to 0.20
4	Weather conditions	0.10 to 0.20
5	Wind speed	0.10 to 0.20
6	Temperature	0.10 to 0.20
7	Pressure	0.10 to 0.20
8	Humidity	0.10 to 0.20
9	Other factors	0.10 to 0.20

FLOATING ROOF EQUIPMENT FACTORS		Tank-specific loss factors for determining the standing storage component of floating-roof tank emissions.
1	Design of floating roof	0.10 to 0.20
2	Age of floating roof	0.10 to 0.20
3	Condition of floating roof	0.10 to 0.20
4	Weather conditions	0.10 to 0.20
5	Wind speed	0.10 to 0.20
6	Temperature	0.10 to 0.20
7	Pressure	0.10 to 0.20
8	Humidity	0.10 to 0.20
9	Other factors	0.10 to 0.20

Company =	Magellan Pipeline Co.	Location =	MANKATO-MN	Ambient Wind Speed =	10.6	Kv =	0.7
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[illegible]

# FLOATING ROOF EQUIPMENT FACTORS

Company =

Tank Identification Number		208-132	208-133	208-160	208-250	208-134	208-61
Standing Storage Loss Factor (lb-mol/yr) =		FxdRfTnk	FxdRfTnk	FxdRfTnk	FxdRfTnk	FxdRfTnk	FxdRfTnk
Tank Diameter (feet)		6.0	5.3	5.3	8.7	4.0	8.0
(to nearest 10 feet, for estimating fitting quantities)		10	10	10	10	0	10
(effective value of wind speed, V, in mph)		0.0	0.0	0.0	0.0	0.0	0.0
FixedRoofType		A	A	A	D	A	A
<div> <div>A column-supported (cone)</div> <div>B self-supporting (dome)</div> <div>C no fixed roof (open top)</div> </div> <div>or</div> <div>D horiz tank</div>							
FloatingRoofType		E	E	E	E	E	E
<div> <div>A pontoon-type EFR (API 650 App.C-type)</div> <div>B double-deck EFR (API 650 App.C-type)</div> <div>C bolted deck IFR (API 650 App.H-type)</div> <div>D welded deck IFR (API 650 App.H-type)</div> </div> <div>or</div> <div>E no floating rf</div>		FxdRfTnk	FxdRfTnk	FxdRfTnk	FxdRfTnk	FxdRfTnk	FxdRfTnk
DeckSeamType (welded or bolted)							
<div> <div>A default for bolted is 5-ft wide</div> <div>continuous sheets (skin &amp; pon-</div> <div>toon, noncontact aluminum)</div> </div> <div>Kd, loss factor =</div> <div>Sd, length factor =</div> <div>Kd x Sd =</div>							
DECK SEAM emission factor (lb-mol/yr) =							
RimSealType		0	0	0	0	0	0
<div>Welded Tanks, Average-Fitting Rim Seals</div> <div>Mechanical-Shoe Primary Seal</div> <div>A with NO Secondary Seal</div> <div>B w/ Shoe-Mtd Secondary Seal</div> <div>C w/ Rim-Mtd Secondary Seal</div> <div>Liquid-Mounted Primary Seal</div> <div>D with NO Secondary Seal</div> <div>E with a Weather Shield</div> <div>F w/ Rim-Mtd Secondary Seal</div> <div>Vapor-Mounted Primary Seal</div> <div>G with NO Secondary Seal</div> <div>H with a Weather Shield</div> <div>I w/ Rim-Mtd Secondary Seal</div> <div>Adfl Mech-Shoe Seals, Special Conditions</div> <div>J w/ NO Secondary Seal - tight fitting</div> <div>K w/ Rim-Mtd Secondary Seal - tight fitting</div> <div>L w/ NO Sec.- Riveted Tank (loose fitting)</div> <div>M w/ Rim-Mtd Sec.- Riveted Tank (loose fitting)</div>							
RIM SEAL emission factor (lb-mol/yr) =							
Guidepole/Gaugepole Type		0	0	0	0	0	0
Quantity of guidepoles/gaugepoles =		0	0	0	0	0	0
GUIDEPOLE Code	Deck Cover Gasket Float Pole Wiper Pole Sleeve						
A Unslotted	No na No No						
B Unslotted	YES na No No						
C Unslotted	No na No YES						
D Unslotted	YES na No YES						
E Unslotted	YES na YES No						
F Slotted	Y or N No No No						
G Slotted	Y or N YES No No						
H Slotted	YES No YES No						
I Slotted	YES No No YES						
J Slotted	YES YES YES No						
K Slotted	YES No YES YES						
L Slotted	YES YES YES YES						
KI, per guidepole =							
GUIDEPOLE emission factor (lb-mol/yr) =							
Other Deck Fittings (use default values - unless an o							
DECK FITTING emission factor (lb-mol/yr) =							
Other Deck Fittings - quantities (default unless override)							
1	Access Hatch						
2	Gauge Float						
3	Gauge Hatch						
4	Vacuum Breaker						
5	Deck Drain *						
6	Leg.prtn area(orIFR)**						
7	Leg.cntr area(orDbIDk)						
8	Rim Vent						
9	Column, round pipe						
10	Column, built-up						
11	Ladder (vertical)						

# STORAGE TANK EMISSIONS ESTIMATES

AP-42 7.1 Eq. 1-1 **Total Emissions** = ( **Standing Storage Loss** ) + ( **Working Loss** )

Company: **Magellan Pipeline Co.**

Eq's 1-2 and 1-3 **Standing Storage Loss** =  $365 \times ((\pi/4) D^2 H_{VO}) \times (W_V K_E K_S)$

Location: **MANKATO-MN**

Eq.1-23, as restated in API MPMS 19.1 Eq.7 **Working Loss** =  $N \times ((\pi/4) D^2 H_{LX}) \times (W_V K_N K_P K_B)$

atmos. pressure: 14.3 14.297 psia, given

where  $K_B$  is a vent setting correction factor to account for high vent settings

Tank Identification Number	1322	1323	1324	1325	1382	1383	1384
<b>Total Estimated Emissions (lbs/yr) =</b>	<b>8,807</b>	<b>1,418</b>	<b>10,213</b>	<b>10,223</b>	<b>1,448</b>	<b>10,223</b>	<b>7,932</b>
Tank Diameter (feet)	85	85	85	85	85	85	85
<b>Properties of Stored Liquid</b>							
Either use the defaults for typical stocks							
Stock code	8	14	8	8	14	8	8
Description	Gasoline RVP X.XX	Kerosene/Jet A	Gasoline RVP X.XX	Gasoline RVP X.XX	Kerosene/Jet A	Gasoline RVP X.XX	Gasoline RVP X.XX
Crude Oil or Refined Stock?							
Storage temperature (liquid bulk, F)?	44.7	44.7	44.7	44.7	44.7	44.7	44.7
Storage temperature (liquid surface, F)?	46.29501	46.3	46.3	46.3	46.3	46.3	46.3
degrees C:	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient
RVP(psi):	13		13	13		13	13
Antoine's Constant 'A':	none given	12.39	none given	none given	12.39	none given	none given
Antoine's Constant 'B':	none given	8933	none given	none given	8933	none given	none given
Antoine's Constant 'C':	none given	none given	none given	none given	none given	none given	none given
distillation slope 'S':	3	none given	3	3	none given	3	3
calculated TVP (psia):	5.37599	0.01	5.38	5.38	0.01	5.38	5.38
<b>Or enter data to describe a stock or to override default properties</b>							
describe the stock, if not selecting from the table above:							
Crude Oil or Refined Stock?							
True Vapor Pressure (psia)							
Liquid density (lbs/gallon)							
Molecular weight (vapor phase)							
<b>Values used for stock properties:</b>							
Liquid density (lbs/gallon):	5.6	7	5.6	5.6	7	5.6	5.6
Mv = molecular weight (vapor phase):	66	130	66	66	130	66	66
True Vapor Pressure (psia):	5.38	0.01	5.38	5.38	0.01	5.38	5.38
Kp = product factor (dimensionless):	1	1	1	1	1	1	1
Kc = product factor (dimensionless):	1	1	1	1	1	1	1
{P* is from AP-42 Eq. 2-3} P* Mv Kc:	7.7462	0.0119	7.7462	7.7462	0.0119	7.7462	7.7462
<b>Standing Storage Variables</b>							
Antoine's Constant 'B':	5043.58	8933.00	5043.58	5043.58	8933.00	5043.58	5043.58
Ke = vapor space expansion factor:	0.15	0.03	0.15	0.15	0.03	0.15	0.15
Ks = vented vapor saturation factor:	0.15	0.99	0.15	0.15	0.99	0.15	0.15
Wv = density of stock vapors:	0.0653	0.0001	0.0653	0.0653	0.0001	0.0653	0.0653
<b>Standing Storage Loss (lbs) =</b>	<b>8,423</b>	<b>187</b>	<b>9,856</b>	<b>9,856</b>	<b>187</b>	<b>9,856</b>	<b>7,556</b>
<b>Tank Operations</b>							
Throughput this period (bbl)							
enter either set of units, but not both (gal)	158,938,416	159,051,984	158,733,120	163,336,992	169,985,088	163,232,160	155,588,160
(bbl)	3,784,248	3,786,952	3,779,360	3,888,976	4,047,264	3,886,480	3,704,480
N = equivalent number of turnovers per year:	110.1	101.3	110.0	113.2	108.2	113.1	107.8
Kn = turnover (saturation) factor:	0.44	0.46	0.44	0.43	0.43	0.43	0.44
Kb = vent setting correction factor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00
clingage factor	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Number of columns (if column-supported fixed roof):	7.00		1.00	1.00		1.00	7.00
Effective column diameter (feet):	1.10	0.70	1.10	1.10	0.70	1.10	1.10
<b>Working Loss (lbs/yr) =</b>	<b>385</b>	<b>1,231</b>	<b>357</b>	<b>367</b>	<b>1,261</b>	<b>367</b>	<b>376</b>



# STORAGE TANK EMISSIONS ESTIMATES

Company: <b>Magellan Pipeline Co.</b>							
Location: <b>MANKATO-MN</b>							
atmos. pressure: 14.3    14.297    psia, given							
<b>Tank Identification Number</b>	<b>183</b>	<b>186</b>	<b>582</b>	<b>583</b>	<b>584</b>	<b>585</b>	<b>586</b>
<b>Total Estimated Emissions (lbs/yr) =</b>	<b>71</b>	<b>3,255</b>	<b>405</b>	<b>405</b>	<b>405</b>	<b>26,629</b>	<b>405</b>
<b>Tank Diameter (feet)</b>	25	25	45	45	45	45	45
<b>Properties of Stored Liquid</b>							
<b>Either use the defaults for typical stocks</b>							
Stock code	14	13	14	14	14	19	14
Description	Kerosene/Jet A	Distillate/Gasoline Mix	Kerosene/Jet A	Kerosene/Jet A	Kerosene/Jet A	Denatured Alcohol	Kerosene/Jet A
Crude Oil or Refined Stock?							
Storage temperature (liquid bulk, F)?	44.7	44.7	44.7	44.7	44.7	44.7	44.7
Storage temperature (liquid surface, F)?	46.3	46.3	46.3	46.3	46.3	46.3	46.3
degrees C:	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient
RVP(psi):						3.7	
Antoine's Constant 'A':	12.39	0.39877612	12.39	12.39	12.39	14.49625545	12.39
Antoine's Constant 'B':	8933	0	8933	8933	8933	7369.558872	8933
Antoine's Constant 'C':	none given	none given	none given	none given	none given	none given	none given
distillation slope 'S':	none given	none given	none given	none given	none given	0	none given
calculated TVP (psia):	0.01	1.49	0.01	0.01	0.01	0.94	0.01
<b>Or enter data to describe a stock or to override default properties</b>							
describe the stock, if not selecting from the table above:							
Crude Oil or Refined Stock?							
True Vapor Pressure (psia)							
Liquid density (lbs/gallon)							
Molecular weight (vapor phase)							
<b>Values used for stock properties:</b>							
Liquid density (lbs/gallon):	7	6.1	7	7	7	6.38	7
Mv = molecular weight (vapor phase):	130	130	130	130	130	49	130
True Vapor Pressure (psia):	0.01	1.49	0.01	0.01	0.01	0.94	0.01
Kp = product factor (dimensionless):	1	1	1	1	1	1	1
Kc = product factor (dimensionless):	1	1	1	1	1	1	1
{P* is from AP-42 Eq. 2-3}      P* Mv Kc:	0.0119	3.5760	0.0119	0.0119	0.0119	0.8326	0.0119
<b>Standing Storage Variables</b>							
Antoine's Constant 'B':	8933.00	6000.00	8933.00	8933.00	8933.00	7369.56	8933.00
Ke = vapor space expansion factor:	0.03	0.06	0.03	0.03	0.03	0.05	0.03
Ks = vented vapor saturation factor:	1.00	0.50	0.99	0.99	0.99	0.49	0.99
Wv = density of stock vapors:	0.0001	0.0357	0.0001	0.0001	0.0001	0.0085	0.0001
<b>Standing Storage Loss (lbs) =</b>	<b>10</b>	<b>2,417</b>	<b>51</b>	<b>51</b>	<b>51</b>	<b>2,672</b>	<b>51</b>
<b>Tank Operations</b>							
Throughput this period (bbl)							
enter either set of units, but not both (gal)	8,028,384	176,232	47,676,720	47,667,984	47,672,352	47,676,720	47,602,464
(bbl)	191,152	4,196	1,135,160	1,134,952	1,135,056	1,135,160	1,133,392
N = equivalent number of turnovers per year:	104.1	2.3	108.3	108.3	108.3	108.3	108.1
Kn = turnover (saturation) factor:	0.45	1.00	0.44	0.44	0.44	0.44	0.44
Kb = vent setting correction factor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00
clingage factor	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Number of columns (if column-supported fixed roof):							
Effective column diameter (feet):	0.70	0.70	0.70	0.70	0.70	0.70	0.70
<b>Working Loss (lbs/yr) =</b>	<b>61</b>	<b>838</b>	<b>354</b>	<b>354</b>	<b>354</b>	<b>23,957</b>	<b>353</b>

# STORAGE TANK EMISSIONS ESTIMATES

Company:	Magellan Pipeline Co.		
Location:	MANKATO-MN		
atmos. pressure:	14.3	14.297	psia, given

<b>Tank Identification Number</b>	<b>6008</b>	<b>6009</b>	<b>6010</b>	<b>6011</b>	<b>6012</b>	<b>208-20</b>	<b>208-21</b>
<b>Total Estimated Emissions (lbs/yr) =</b>	<b>721</b>	<b>730</b>	<b>721</b>	<b>720</b>	<b>721</b>	<b>73</b>	<b>117</b>
Tank Diameter (feet)	60	60	60	60	60	8.13685789	10.11772995
<b>Properties of Stored Liquid</b>							
Either use the defaults for typical stocks							
Stock code	14	14	14	14	14	17	17
Description	Kerosene/Jet A	Kerosene/Jet A	Kerosene/Jet A	Kerosene/Jet A	Kerosene/Jet A	Jet naphtha (JP-4)	Jet naphtha (JP-4)
Crude Oil or Refined Stock?							
Storage temperature (liquid bulk, F)?	44.7	44.7	44.7	44.7	44.7	44.7	44.7
Storage temperature (liquid surface, F)?	46.3	46.3	46.3	46.3	46.3	46.3	46.3
degrees C:	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient
RVP(psi):							
Antoine's Constant 'A':	12.39	12.39	12.39	12.39	12.39	11.368	11.368
Antoine's Constant 'B':	8933	8933	8933	8933	8933	5784.3	5784.3
Antoine's Constant 'C':	none given	none given	none given	none given	none given	none given	none given
distillation slope 'S':	none given	none given	none given	none given	none given	none given	none given
calculated TVP (psia):	0.01	0.01	0.01	0.01	0.01	0.94	0.94
<b>Or enter data to describe a stock or to override default p</b>							
describe the stock, if not selecting from the table above:							
Crude Oil or Refined Stock?							
True Vapor Pressure (psia)							
Liquid density (lbs/gallon)							
Molecular weight (vapor phase)							
<b>Values used for stock properties:</b>							
Liquid density (lbs/gallon):	7	7	7	7	7	6.4	6.4
Mv = molecular weight (vapor phase):	130	130	130	130	130	80	80
True Vapor Pressure (psia):	0.01	0.01	0.01	0.01	0.01	0.94	0.94
Kp = product factor (dimensionless):	1	1	1	1	1	1	1
Kc = product factor (dimensionless):	1	1	1	1	1	1	1
{P* is from AP-42 Eq. 2-3} P* Mv Kc:	0.0119	0.0119	0.0119	0.0119	0.0119	1.3673	1.3673
<b>Standing Storage Variables</b>							
Antoine's Constant 'B':	8933.00	8933.00	8933.00	8933.00	8933.00	5784.30	5784.30
Ke = vapor space expansion factor:	0.03	0.03	0.03	0.03	0.03	0.05	0.05
Ks = vented vapor saturation factor:	0.99	0.99	0.99	0.99	0.99	0.89	0.88
Wv = density of stock vapors:	0.0001	0.0001	0.0001	0.0001	0.0001	0.0139	0.0139
<b>Standing Storage Loss (lbs) =</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>29</b>	<b>47</b>
<b>Tank Operations</b>							
Throughput this period (bbl)							
enter either set of units, but not both (gal)	84,835,296	87,980,256	84,774,144	84,634,368	84,800,352	23,830	37,978
(bbl)	2,019,888	2,094,768	2,018,432	2,015,104	2,019,056	567	904
N = equivalent number of turnovers per year:	108.4	112.4	108.3	108.1	108.3	19.8	19.7
Kn = turnover (saturation) factor:	0.44	0.43	0.44	0.44	0.44	1.00	1.00
Kb = vent setting correction factor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00
clingage factor	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Number of columns (if column-supported fixed roof):							
Effective column diameter (feet):	0.70	0.70	0.70	0.70	0.70	0.70	0.70
<b>Working Loss (lbs/yr) =</b>	<b>629</b>	<b>638</b>	<b>629</b>	<b>628</b>	<b>629</b>	<b>44</b>	<b>70</b>

# STORAGE TANK EMISSIONS ESTIMATES

<div> <div>Company: <b>Magellan Pipeline Co.</b></div> <div>Location: <b>MANKATO-MN</b></div> <div> atmos. pressure: <div>14.3</div> <div>14.297</div> psia, given </div> </div>							
<b>Tank Identification Number</b>	<b>208-120</b>	<b>208-130</b>	<b>208-132</b>	<b>208-133</b>	<b>208-160</b>	<b>208-250</b>	<b>208-134</b>
<b>Total Estimated Emissions (lbs/yr) =</b>	<b>39</b>	<b>156</b>	<b>77</b>	<b>37</b>	<b>101</b>	<b>79</b>	<b>21</b>
<b>Tank Diameter (feet)</b>	<b>8.740387445</b>	<b>7.4</b>	<b>6</b>	<b>5.3</b>	<b>5.3</b>	<b>8.740387445</b>	<b>4</b>
<b>Properties of Stored Liquid</b>							
Either use the defaults for typical stocks							
Stock code	17	17	17	17	17	17	17
Description	Jet naphtha (JP-4)	Jet naphtha (JP-4)	Jet naphtha (JP-4)	Jet naphtha (JP-4)	Jet naphtha (JP-4)	Jet naphtha (JP-4)	Jet naphtha (JP-4)
Crude Oil or Refined Stock?							
Storage temperature (liquid bulk, F)?	44.7	44.7	44.7	44.7	44.7	44.7	44.7
Storage temperature (liquid surface, F)?	46.3	46.3	46.3	46.3	46.3	46.3	46.3
degrees C:	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient	calc'd from ambient
RVP(psi):							
Antoine's Constant 'A':	11.368	11.368	11.368	11.368	11.368	11.368	11.368
Antoine's Constant 'B':	5784.3	5784.3	5784.3	5784.3	5784.3	5784.3	5784.3
Antoine's Constant 'C':	none given	none given	none given	none given	none given	none given	none given
distillation slope 'S':	none given	none given	none given	none given	none given	none given	none given
calculated TVP (psia):	0.94	0.94	0.94	0.94	0.94	0.94	0.94
<b>Or enter data to describe a stock or to override default p</b>							
describe the stock, if not selecting from the table above:							
Crude Oil or Refined Stock?							
True Vapor Pressure (psia)							
Liquid density (lbs/gallon)							
Molecular weight (vapor phase)							
<b>Values used for stock properties:</b>							
Liquid density (lbs/gallon):	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Mv = molecular weight (vapor phase):	80	80	80	80	80	80	80
True Vapor Pressure (psia):	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Kp = product factor (dimensionless):	1	1	1	1	1	1	1
Kc = product factor (dimensionless):	1	1	1	1	1	1	1
{P* is from AP-42 Eq. 2-3} P* Mv Kc:	1.3673	1.3673	1.3673	1.3673	1.3673	1.3673	1.3673
<b>Standing Storage Variables</b>							
Antoine's Constant 'B':	5784.30	5784.30	5784.30	5784.30	5784.30	5784.30	5784.30
Ke = vapor space expansion factor:	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Ks = vented vapor saturation factor:	0.89	0.74	0.79	0.87	0.69	0.89	0.87
Wv = density of stock vapors:	0.0139	0.0139	0.0139	0.0139	0.0139	0.0139	0.0139
<b>Standing Storage Loss (lbs) =</b>	<b>31</b>	<b>56</b>	<b>29</b>	<b>15</b>	<b>34</b>	<b>31</b>	<b>8</b>
<b>Tank Operations</b>							
Throughput this period (bbl)							
enter either set of units, but not both (gal)	3,948	53,973	25,888	11,882	35,865	25,380	6,768
(bbl)	94	1,285	616	283	854	604	161
N = equivalent number of turnovers per year:	3.3	14.0	14.9	18.0	13.5	20.9	18.0
Kn = turnover (saturation) factor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kb = vent setting correction factor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00
clingage factor	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Number of columns (if column-supported fixed roof):							
Effective column diameter (feet):	0.70	0.70	0.70	0.70	0.70	0.70	0.70
<b>Working Loss (lbs/yr) =</b>	<b>7</b>	<b>100</b>	<b>48</b>	<b>22</b>	<b>67</b>	<b>47</b>	<b>13</b>

STORAGE TANK EMISSIONS ESTIMATES		
Company:	Magellan Pipeline Co.	
Location:	MANKATO-MN	
atmos. pressure:	14.3	14.297 psia, given
<b>Tank Identification Number</b>		
		<b>208-61</b>
<b>Total Estimated Emissions (lbs/yr) =</b>		<b>140</b>
Tank Diameter (feet)		8
<b>Properties of Stored Liquid</b>		
Either use the defaults for typical stocks		
Stock code	17	
Description	Jet naphtha (JP-4)	
Crude Oil or Refined Stock?		
Storage temperature (liquid bulk, F)?	44.7	
Storage temperature (liquid surface, F)?	46.3	
degrees C:	7.9	
	calc'd from ambient	
RVP(psi):		
Antoine's Constant 'A':	11.368	
Antoine's Constant 'B':	5784.3	
Antoine's Constant 'C':	none given	
distillation slope 'S':	none given	
calculated TVP (psia):	0.94	
<b>Or enter data to describe a stock or to override default properties</b>		
describe the stock, if not selecting from the table above:		
Crude Oil or Refined Stock?		
True Vapor Pressure (psia)		
Liquid density (lbs/gallon)		
Molecular weight (vapor phase)		
<b>Values used for stock properties:</b>		
Liquid density (lbs/gallon):	6.4	
Mv = molecular weight (vapor phase):	80	
True Vapor Pressure (psia):	0.94	
Kp = product factor (dimensionless):	1	
Kc = product factor (dimensionless):	1	
{P* is from AP-42 Eq. 2-3} P* Mv Kc:	1.3673	
<b>Standing Storage Variables</b>		
Antoine's Constant 'B':	5784.30	
Ke = vapor space expansion factor:	0.05	
Ks = vented vapor saturation factor:	0.79	
Wv = density of stock vapors:	0.0139	
<b>Standing Storage Loss (lbs) =</b>	<b>53</b>	
<b>Tank Operations</b>		
Throughput this period (bbl)		
enter either set of units, but not both (gal)	47,376	
(bbl)	1,128	
N = equivalent number of turnovers per year:	14.8	
Kn = turnover (saturation) factor:	1.00	
Kb = vent setting correction factor:	1.00	
clingage factor	0.0015	
Number of columns (if column-supported fixed roof):		
Effective column diameter (feet):	0.70	
<b>Working Loss (lbs/yr) =</b>	<b>88</b>	

form design by Rob Ferry, the TGB partnership

# STORAGE TANK EMISSIONS ESTIMATES - Summary Report

Company: <b>Magellan Pipeline Co.</b>	Location: <b>MANKATO-MN</b>
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									Days			Estimated
Period	Year	Avg. Conditions	Temp (°F)	delta T	Insolation	Wind Speed		this	Estimated Losses	Emissions		
ANNUAL	2023	This Period	44.7	19.0	1170	10.56		Month	This Month	This Month		
Return to Input_Service												
Tank	Diam.			RVP	Throughput	Liquid Temp		Avg	in this Service	Standing	Working	Total
ID No.	(feet)	Tank Type	Product	(psi)	(gallons)	Bulk (deg F)	Surface (deg F)	TVP (psia)		If Floating	Roof Landing	VOCs (lbs)
1322	85.00	cone-roof tank w/IFR	Gasoline RVP X.XX	13	158,938,416	not spec'd	46.3	5.3760	365	8,423	385	8,807
1323	85.00	FRT(no floating roof)	Kerosene/Jet A		159,051,984	not spec'd	46.3	0.01	365	187	1,231	1,418
1324	85.00	cone-roof tank w/IFR	Gasoline RVP X.XX	13	158,733,120	not spec'd	46.3	5.38	365	9,856	357	10,213
1325	85.00	cone-roof tank w/IFR	Gasoline RVP X.XX	13	163,336,992	not spec'd	46.3	5.38	365	9,856	367	10,223
1382	85.00	FRT(no floating roof)	Kerosene/Jet A		169,985,088	not spec'd	46.3	0.01	365	187	1,261	1,448
1383	85.00	cone-roof tank w/IFR	Gasoline RVP X.XX	13	163,232,160	not spec'd	46.3	5.38	365	9,856	367	10,223
1384	85.00	cone-roof tank w/IFR	Gasoline RVP X.XX	13	155,588,160	not spec'd	46.3	5.38	365	7,556	376	7,932
183	25.00	FRT(no floating roof)	Kerosene/Jet A		8,028,384	not spec'd	46.3	0.01	365	10	61	71
186	25.00	FRT(no floating roof)	Distillate/Gasoline Mix		176,232	not spec'd	46.3	1.49	365	2,417	838	3,255
582	45.00	FRT(no floating roof)	Kerosene/Jet A		47,676,720	not spec'd	46.3	0.01	365	51	354	405
583	45.00	FRT(no floating roof)	Kerosene/Jet A		47,667,984	not spec'd	46.3	0.01	365	51	354	405
584	45.00	FRT(no floating roof)	Kerosene/Jet A		47,672,352	not spec'd	46.3	0.01	365	51	354	405
585	45.00	FRT(no floating roof)	Denatured Alcohol	3.7	47,676,720	not spec'd	46.3	0.94	365	2,672	23,957	26,629
586	45.00	FRT(no floating roof)	Kerosene/Jet A		47,602,464	not spec'd	46.3	0.01	365	51	353	405
6008	60.00	FRT(no floating roof)	Kerosene/Jet A		84,835,296	not spec'd	46.3	0.01	365	92	629	721
6009	60.00	FRT(no floating roof)	Kerosene/Jet A		87,980,256	not spec'd	46.3	0.01	365	92	638	730
6010	60.00	FRT(no floating roof)	Kerosene/Jet A		84,774,144	not spec'd	46.3	0.01	365	92	629	721
6011	60.00	FRT(no floating roof)	Kerosene/Jet A		84,634,368	not spec'd	46.3	0.01	365	92	628	720
6012	60.00	FRT(no floating roof)	Kerosene/Jet A		84,800,352	not spec'd	46.3	0.01	365	92	629	721
208-20	8.14	horizontal tank	Jet naphtha (JP-4)		23,830	not spec'd	46.3	0.94	365	29.24	44.21	73
208-21	10.12	horizontal tank	Jet naphtha (JP-4)		37,978	not spec'd	46.3	0.94	365	46.87	70.47	117
208-120	8.74	horizontal tank	Jet naphtha (JP-4)		3,948	not spec'd	46.3	0.94	365	31.46	7.33	39
208-130	7.40	FRT(no floating roof)	Jet naphtha (JP-4)		53,973	not spec'd	46.3	0.94	365	55.72	100.14	156
208-132	6.00	FRT(no floating roof)	Jet naphtha (JP-4)		25,888	not spec'd	46.3	0.94	365	28.79	48.03	77
208-133	5.30	FRT(no floating roof)	Jet naphtha (JP-4)		11,882	not spec'd	46.3	0.94	365	14.51	22.05	37
208-160	5.30	FRT(no floating roof)	Jet naphtha (JP-4)		35,865	not spec'd	46.3	0.94	365	34.26	66.55	101
208-250	8.74	horizontal tank	Jet naphtha (JP-4)		25,380	not spec'd	46.3	0.94	365	31.46	47.09	79
208-134	4.00	FRT(no floating roof)	Jet naphtha (JP-4)		6,768	not spec'd	46.3	0.94	365	8.23	12.56	21
208-61	8.00	FRT(no floating roof)	Jet naphtha (JP-4)		47,376	not spec'd	46.3	0.94	365	52.51	87.90	140