

**Technical Support Document
for
Draft Air Emission Permit No. 06900015-101**

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

1. General information

1.1 Applicant and stationary source location

Table 1. Applicant and source address

Applicant/Address	Stationary source/Address (SIC Code: 4922 - Natural Gas Transmission)
Viking Gas Transmission Co/ONEOK Partners, L.P. 100 W 5th St MD 12-4 Tulsa, Oklahoma 74103	Viking Gas Transmission - Humboldt 1805 360th Street Humboldt, MN 56731
Contact: Preston Wilson Phone: (815) 467-4633 x128	

1.2 Facility description

The Humboldt facility is a natural gas compressor station consisting of one water jacket heater (EQUI 1), five 1,700-hp 2-stroke lean burn reciprocating internal combustion compressor engines (EQUI 2, EQUI 3, EQUI 4, EQUI 5 and EQUI 6), and one 4-stroke rich burn reciprocating internal combustion engine emergency generator (EQUI 7). All units combust only pipeline natural gas obtained from the pipeline. The compressors pressurize the natural gas in the pipeline causing it to flow to the next compressor station. The water jacket heater is used to warm up the lubricant and condition other engine fluids before the other compressor engines are started.

This facility is located on a natural gas transmission pipeline with compressor stations located in Minnesota from north to south, at Humboldt, Angus, Ada, Frazee, Cushing, and Milaca.

1.3 Description of the activities allowed by this permit action

This permit action is Part 70 Reissuance.

1.4 Description of notifications and applications included in this action

Table 2. Notifications and applications included in this action

Date received	Application/Notification type and description
01/26/2016	Part 70 Reissuance (IND20160001)

1.5 Facility emissions

Table 3. Total facility potential to emit summary

	PM tpy	PM ₁₀ tpy	PM _{2.5} tpy	SO ₂ tpy	NO _x tpy	CO tpy	CO _{2e} tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total facility limited potential emissions	14.85	14.85	14.85	0.183	973.9	121.5	36488	36.84	16.94	24.43
Total facility actual emissions (2016)	0.012	0.0063	0.0020	0.020	97.22	12.19	*	3.68	*	

*Not reported in Minnesota emission inventory.

Table 4. Facility classification

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

1.6 Changes to permit

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

- The subject items including the emission units have been renamed because of the Tempo database transition.
- The permit has been updated to reflect current MPCA templates and citation formatting.
- CO_{2e} and PM_{2.5} emissions data was added to the facility description.
- COMG 1 (GP 001) Reciprocating Internal Combustion Engines was removed and all of the applicable requirements are applied to each individual subject item (EQUI 2, EQUI 3, EQUI 4, EQUI 5, and EQUI 6). The reference to NESHAP subp. ZZZZ was removed because it does not apply (see section 2.4).
- Requirements of 40 CFR pt. 63, subp. DDDDD have been added for the water jacket heater (EQUI 1).
- Requirements of 40 CFR pt. 63, subp. ZZZZ have been added for the emergency generator (EQUI 7).
- The monitoring requirements for the total hours of operation for the water jacket heater (EQUI 1) while EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 is in operation have been changed to ensure continuous compliance with the hour restrictions. A daily recordkeeping requirement has been added to ensure compliance with the total hours of operation for EQUI 1. The state only requirement citation was removed because the hourly limits determined from modeling are used to comply with National Ambient Air Quality Standards, 40 CFR pt. 50.
- The Particulate Matter limit for the water jacket heater (EQUI 1) has been changed because Permittee pointed out that the start date for the heater was 1982, not 1967 as it was in our records. This changes the classification of the heater from existing to new under Minn. R. 7011.
- The monitoring requirements for the total hours of operation for the emergency generator (EQUI 7) while EQUI 2, EQUI 3, EQUI 4, EQUI 5 or EQUI 6 is in operation have been changed to ensure continuous compliance with the hour restrictions. A daily recordkeeping requirement has been added to ensure compliance with the total hours of operation for EQUI 7. The state only requirement citation was removed because the hourly limits determined from modeling are used to comply with National Ambient Air Quality Standards, 40 CRF pt. 50.
- The insignificant activities are included in Appendix A to the permit. The space heaters were moved from Minn. R. 7007.1300, subp. 3(A) to 3(I) on the insignificant activities table in Appendix A because the total combined capacity of all indirect heating equipment, (0.634 MMBtu/hr), is greater

than the 420,000 Btu/hr threshold for qualifying under Minn. R. 7007.1300, subp. 3(A). On an individual basis, these space heaters qualify under Minn. R. 7007.1300, subp. 3(I).

- Removed the insignificant activity for total facility usage of VOC of less than 200 gallons in a year period that was incorrectly listed under Minn. R. 7007.1300 subp. 3(I). The VOCs used at the facility are tanks of lubricating oil for the engines. Storage tanks holding lubricating oils qualify as insignificant activities under Minn. R. 7007.1300, subp. 2(E)(2) and are not required to be listed in the permit application or permit
- December 27, 2016, the Omnibus Rule became effective. The Omnibus Rule revised Air Quality Rules, MN Rules Chapters. In doing so, this rule revised 7011.2300 Standards of Performance for Stationary Internal Combustion Engines. Starting January 31, 2018, owners or operators of stationary internal combustion engines must not allow any gases that contain sulfur dioxide in excess of 0.0015 lb/MMBtu heat input to be discharged into the atmosphere unless the agency establishes an alternative sulfur dioxide limit in an air permit that includes a demonstration through modeling of compliance.
- PM₁₀ Emission limits were removed from all EQUIs because the numbers were just the potential hourly emissions based on equipment hourly capacity and allowed fuels, rather than an artificial limit assumed in order to meet the standards.

2. Regulatory and/or statutory basis

2.1 New source review (NSR)

The facility is an existing major source under New Source Review regulations. No changes are authorized by this permit.

2.2 Part 70 permit program

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

2.3 New source performance standards (NSPS)

No NSPS apply to the facility.

The natural gas fired compressor engines (EQUI 2, EQUI 3, and EQUI 4, EQUI 5, and EQUI 6) and emergency generator engine (EQUI 7) are not subject to 40 CFR pt. 60, subp. JJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines) because they were installed in 1960, and 1967 which is prior to the applicability date of June 12, 2006.

2.4 National emission standards for hazardous air pollutants (NESHAP)

The facility is an existing major source of HAPs under 40 CFR pt. 63.

The water jacket heater (EQUI 1) is subject to 40 CFR pt. 63, subp. DDDDD – Standards for Hazardous Air Pollutants (HAP) for Industrial, Commercial, and Institutional Boilers Major Sources. The facility is a major source of HAPs and EQUI 1 is a process heater by definition in 40 CFR §63.7575.

The five, 2-stroke lean burn (2SLB) 1,700 hp compressor engines and one (EQUIs 2-6) are not subject to 40 CFR pt. 63, subp. ZZZZ – Standards for Hazardous Air Pollutants (HAP) for Stationary Reciprocating Internal Combustion Engines (RICE). These engines are exempt under 40 CFR 63.6590(b)(3)(i), because they are existing 2SLB stationary RICE larger than 500 hp located in a major source of HAP; they are existing engines since they commenced construction in 1967, prior to June 12, 2006.

The natural gas fired emergency generator (EQUI 7) is subject to 40 CFR pt. 63, subp. ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, based on the following: the generator is located in a major source; it is an existing engine since it

commenced construction in 1967, prior to June 12, 2006; has a maximum design capacity of 100 hp, less than 500 horsepower; and is an emergency spark ignition engine.

2.5 Compliance assurance monitoring (CAM)

The facility currently has no units subject to CAM (40 CFR pt. 64), because none of the units have add-on control equipment.

2.6 Environmental review and air emissions risk analysis (AERA)

This permit action does not trigger any environmental review or air emissions risk analysis requirements because there are no changes proposed at the facility.

2.7 Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.0610 Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Table 5. Regulatory overview of facility

Subject item*	Applicable regulations	Rationale
TFAC 1 - Air Quality Total Facility	Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2, & 4; Minn. R. 7009.0010-7009.0090; Minn. Stat. 116.07, subds. 4a & 9	National Ambient Air Quality Standards. The facility has shown modeled compliance with PM ₁₀ NAAQS using the parameters shown in permit Appendix B.
EQUI 1 - Process Heater	40 CFR pt. 50; Minn. Stat 116 07, subds. 4a & 9, Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2, & 4; Minn. R. 7009.0010-7009.0090	National Ambient Air Quality Standards. Limit on operating hours to demonstrate modeled compliance with NO ₂ NAAQS. (See section 3.3 Dispersion Modeling for further details).
EQUI 1 - Process Heater	40 CFR pt. 63, subp. DDDDD, Minn. R. 7011.7050	National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. EQUI 1 is an existing process heater that burns natural gas with a maximum capacity of 3.0 MMBtu/hr.
EQUI 1 - Process Heater	Minn. R. 7011.0510	Standards of Performance for Existing Indirect Heating Equipment. Determination of applicable limit from rule: <ul style="list-style-type: none"> · The unit was constructed in 1982. · This unit has an input of 4.0 MMBtu/hr of indirect heating equipment.
EQUI 2 - Reciprocating IC Engine	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines
EQUI 3 - Reciprocating IC Engine	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines
EQUI 4 - Reciprocating IC Engine	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines

Subject item*	Applicable regulations	Rationale
EQUI 5 - Reciprocating IC Engine	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines
EQUI 6 - Reciprocating IC Engine	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines
EQUI 7 - Reciprocating IC Engine	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines
EQUI 7 - Reciprocating IC Engine	40 CFR pt. 63, subp. ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE).
EQUI 7 - Reciprocating IC Engine	40 CFR pt. 50; Minn. Stat. § 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0090	National Ambient Air Quality Standards. Limit on operating hours to demonstrate modeled compliance with NO ₂ NAAQS. (See section 3.3 Dispersion Modeling for further details).

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

3. Technical information

3.1 Calculations of potential to emit (PTE)

The TSD Attachment 1; PTE Summary, GHG Summary, and NO_x & SO₂ Limit Calculations Spreadsheets contains detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

Criteria pollutants and HAP emissions from the water jacket heater (EQUI 1) were calculated using emission factors from AP-42 Chapter 1.4-1, 1.4-2, 1.4-3, and 1.4-4 version 7/1998 Natural Gas Combustion for small uncontrolled boilers. Particulate matter (PM) from natural gas combustion has been estimated to be less than 1 micrometer in size and has filterable and condensable fractions. The PM emission factors for both PM₁₀ and PM_{2.5} are the sum of the filterable and the condensable emission factors. GHG emission factors for CO₂, N₂O, and CH₄, and numbers for CO₂ equivalents, were taken 40 CFR pt. 98 Table C-1, C-2 of Subpart C, version 11/2013, and Table A-1 of Subpart A, version 1/2014.

Criteria pollutants and HAP emissions from the reciprocating internal combustion engines (RICE) EQUI 2, EQUI 3, EQUI 4, EQUI 5, and EQUI 6 were calculated using emission factors AP-42 from Section 3.2-1 Uncontrolled Emission Factors for 2-Stroke Lean-Burn Engines version 7/2000 for Natural Gas-fired Reciprocating Engines. Emissions of PM from natural gas-fired reciprocating engines are generally minimal and comprise of fine filterable and condensable PM. The PM emission factors for both PM₁₀ and PM_{2.5} are the sum of the filterable and the condensable emission factors. GHG emission factors for CO₂, N₂O, and CH₄, as well as the numbers for CO₂ equivalents, were taken from 40 CFR pt. 98 Table C-1, C-2 of Subpart C, version 11/2013, and Table A-1 of Subpart A, version 1/2014.

Criteria pollutants and HAP emissions from the emergency generator (EQUI 7) were calculated from AP-42 Chapter 3.2-3 version 7/2000 Natural Gas-fired Reciprocating Engines using emission factors for 4-stroke rich-burn engines. The emissions of PM from natural gas-fired reciprocating engines are generally minimal and comprise of fine filterable and condensable PM. The PM emission factors for both PM₁₀ and PM_{2.5} are the sum of the filterable and the condensable emission factors. Emission factors for CO₂, N₂O, and CH₄, and numbers for CO₂ equivalents, were taken 40 CFR pt. 98 Table C-1, C-2 of Subpart C, version 11/2013, and Table A-1 of Subpart A, version 1/2014.

3.2 Dispersion modeling

The air permit is required to include conditions necessary to ensure compliance with all applicable requirements, including National and Minnesota Ambient Air Quality Standards (NAAQS and MAAQS). In the 1990's, the facility completed air dispersion modeling showing compliance with the annual NO₂ NAAQS. Operating restrictions were assumed when the modeling was conducted were incorporated as permit limits (e.g., hours of operation for the emergency generator and Water Jacket) in permit action 06900015-001 and remain in the current permit.

At the time of permit issuance, no new modeling is required. Current MPCA practice regarding modeling at gas transmission stations is to require modeling at the largest of multiple facilities per company. Viking Gas Transmission's Ada Compressor Station was identified as the facility where modeling will be done.

3.3 Monitoring

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

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

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

Table 6. Monitoring

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 1	Opacity <= 20% opacity except for one six-minute period per hour of not more than 60 percent opacity. Particulate Matter <= 0.60 lb/MMBtu heat input. [Minn. R. 7011.0510]	None	EQUI 1 only fires natural gas; therefore, the likelihood of violating the emission limit is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limit by only burning natural gas. Design based PTE, using AP-42, is 0.0075 lb/MMBtu

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 1	Hours <= 2150 hours per year 12-month rolling sum for EQUI 1 when EQUI 2, EQUI 3, EQUI 4, EQUI 5, EQUI 6, and EQUI 7 are also in operation. [40 CFR pt. 50, Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subps. 1,2, & 4, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9]	Daily Recordkeeping; Monthly Recordkeeping	The Permittee is required to record and maintain the operating times of EQUI 1 on each day it is operated. Along with daily recordkeeping, the Permittee is required to calculate the total hours used for each month using the daily records and maintain a 12-month rolling sum.
EQUI 2	Opacity <= 20% opacity once operating temperatures have been attained. Sulfur Dioxide <= 0.50 lb/MMBtu heat input. Sulfur Dioxide <= 0.0015 lb/MMBtu heat input. This limit is effective on January 31, 2018. [Minn. R. 7011.2300]	None	EQUI 2 only fires natural gas; therefore, the likelihood of violating the emission limit is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limit by only burning natural gas. Since this is a permit condition, the semi-annual deviations report will document any deviations from this condition. Design based PTE using AP-42, is 0.00059 lb SO ₂ /MMBtu.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 3	<p>Opacity <= 20 percent opacity once operating temperatures have been attained.</p> <p>Sulfur Dioxide <= 0.50 lb/MMBtu heat input.</p> <p>Sulfur Dioxide <= 0.0015lb/MMBtu heat input. This limit is effective on January 31, 2018. [Minn. R. 7011.2300]</p>	None	<p>EQUI 3 only fires natural gas; therefore, the likelihood of violating the emission limit is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limit by only burning natural gas. Since this is a permit condition, the semi-annual deviations report will document any deviations from this condition. Design based PTE using AP-42, is 0.00059 lb SO₂/MMBtu</p>
EQUI 4	<p>Opacity <= 20 percent opacity once operating temperatures have been attained.</p> <p>Sulfur Dioxide <= 0.50 lb/MMBtu heat input.</p> <p>Sulfur Dioxide <= 0.0015lb/MMBtu heat input. This limit is effective on January 31, 2018. [Minn. R. 7011.2300]</p>	None	<p>EQUI 4 only fires natural gas; therefore, the likelihood of violating the emission limit is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limit by only burning natural gas. Since this is a permit condition, the semi-annual deviations report will document any deviations from this condition. Design based PTE using AP-42, is 0.00059 lb SO₂/MMBtu</p>
EQUI 5	<p>Opacity <= 20 percent opacity once operating temperatures have been attained.</p> <p>Sulfur Dioxide <= 0.50 lb/MMBtu heat input.</p> <p>Sulfur Dioxide <= 0.0015lb/MMBtu heat input. This limit is effective on January 31, 2018. [Minn. R. 7011.2300]</p>	None	<p>EQUI 5 only fires natural gas; therefore, the likelihood of violating the emission limit is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limit by only burning natural gas. Since this is a permit condition, the semi-annual deviations report will document any deviations from this condition. Design based PTE using AP-42, is 0.00059 lb SO₂/MMBtu.</p>

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 6	<p>Opacity <= 20 percent opacity once operating temperatures have been attained.</p> <p>Sulfur Dioxide <= 0.50 lb/MMBtu heat input.</p> <p>Sulfur Dioxide <= 0.0015lb/MMBtu heat input. This limit is effective on January 31, 2018. [Minn. R. 7011.2300]</p>	None	<p>EQUI 6 only fires natural gas; therefore, the likelihood of violating the emission limit is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limit by only burning natural gas. Since this is a permit condition, the semi-annual deviations report will document any deviations from this condition. Design based PTE using AP-42, is 0.00059 lb SO₂/MMBtu.</p>
EQUI 7	<p>Opacity <= 20 percent opacity once operating temperatures have been attained.</p> <p>Sulfur Dioxide <= 0.50 lb/MMBtu heat input.</p> <p>Sulfur Dioxide <= 0.0015lb/MMBtu heat input. This limit is effective on January 31, 2018. [Minn. R. 7011.2300]</p>		<p>EQUI 7 only fires natural gas; therefore, the likelihood of violating the emission limit is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limit by only burning natural gas. Since this is a permit condition, the semi-annual deviations report will document any deviations from this condition. Design based PTE using AP-42, is 0.00059 lb SO₂/MMBtu.</p>
EQUI 7	<p>Hours <= 720 hours per year 12-month rolling sum for EQUI 7 when EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 are also in operation. [40 CFR pt. 50, Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9]</p>	<p>Daily Recordkeeping; Monthly Recordkeeping; Inspections; O&M Plan</p>	<p>The Permittee is required to record and maintain the operating times of EQUI 7 on each day it is operated. Along with daily recordkeeping, the Permittee is required to calculate the total hours used for each month using the daily records and maintain a 12-month rolling sum.</p> <p>The Permittee can meet this limit by complying with 40 CFR pt. 63, subp. ZZZZ.</p>

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

3.4 Insignificant activities

Viking Gas Transmission - Humboldt has several operations which are classified as insignificant activities under the MPCA's permitting rules. These are listed in Appendix A to the permit.

Table 7. Insignificant activities

Insignificant activity	General applicable emission limit	Discussion
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011. 0715)	The Permittee operates two welders and an acetylene torch.
Individual units with potential emissions less than 2000 lb/year of certain pollutants	PM ≤ 0.40 lb/MMBtu Opacity ≤ 20%, except for one 6-min period per hour of not more than 60% (Minn. R. 7011.0510)	The Permittee has four garage space heaters with 0.080 MMBtu/hr capacities, and one warehouse space heater with a 0.200 MMBtu/hr capacity.

3.5 Permit organization

In general, the permit meets the MPCA Tempo Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Tempo guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be electronically tracked (e.g., limits, submittals, etc.), should be in the Requirements table in Tempo. The main reason is that the appendices are word processing sections and are not part of the electronic tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these.

3.6 Comments received

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

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

This Section will be completed after the referenced review periods.

4. Permit fee assessment

This permit action is the reissuance of an individual Part 70; therefore, no application fees apply under Minn. R. 7002.0016, subp. 1.

5. Conclusion

Based on the information provided by Viking Gas Transmission - Humboldt the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 06900015-101 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff members on permit team: Michaela Leach (permit engineer)
Amrill Okonkwo (peer reviewer)
Michaela Leach (Data Coordinator/permit writing assistant)
Laurie O'Brien (administrative support)
Marc Severin (compliance reviewer)

Matthew Snorek (compliance reviewer)
Andy Place (compliance reviewer)

TEMPO360 Activities: Part 70 Reissuance (IND20160001)

- Attachments:
1. PTE summary calculation spreadsheets
 2. Subject item inventory and facility requirements

Attachment 1 – PTE Summary Calculation Spreadsheets

PTE Totals for All Emission Units

<i>Pollutants</i>	<i>Limited PTE (lb/hr)</i>	<i>Unrestricted Potential (tpy)</i>	<i>Limited PTE (tpy)</i>	<i>Pollutants</i>	<i>Limited PTE (lb/hr)</i>	<i>Unrestricted Potential (tpy)</i>	<i>Limited PTE (tpy)</i>
1,1,2,2-Tetrachloroethane	4.69E-03	2.05E-02	2.03E-02	NOx	226.7	993.0	973.9
1,1,2-Trichloroethane	3.72E-03	1.63E-02	1.62E-02	PM10	3.5	15.1	14.9
1,1-Dichloroethane	2.76E-03	1.21E-02	1.20E-02	PM2.5	3.5	15.1	14.9
1,2-Dichloroethane	2.98E-03	1.30E-02	1.29E-02	Total PM	3.5	15.1	14.9
1,2-Dichloropropane	3.15E-03	1.38E-02	1.37E-02	SO ₂	0.0	0.2	0.2
1,3-Butadiene	5.87E-02	2.57E-01	2.52E-01	VOC	8.5	37.1	36.8
1,3-Dichloropropene	3.09E-03	1.35E-02	1.34E-02	CO	34.8	152.4	121.4
2,2,4-Trimethylpentane	5.92E-02	2.59E-01	2.59E-01				
Acetaldehyde	5.49E-01	2.40E+00	2.38E+00	Total HAP	5.65	24.73	24.45
Acrolein	5.50E-01	2.41E+00	2.39E+00	Formaldehyde	3.91	17.11	16.94
Benzene	1.39E-01	6.09E-01	5.96E-01				
Biphenyl	2.77E-04	1.21E-03	1.21E-03				
Carbon Tetrachloride	4.28E-03	1.88E-02	1.86E-02				
Chlorobenzene	3.13E-03	1.37E-02	1.36E-02				
Chloroform	3.32E-03	1.46E-02	1.45E-02				
1,4-Dichlorobenzene	4.71E-06	2.06E-05	5.06E-06				
Ethylbenzene	7.61E-03	3.33E-02	3.31E-02				
Ethylene Dibromide	5.18E-03	2.27E-02	2.25E-02				
Formaldehyde	3.91E+00	1.71E+01	1.69E+01				
Hexane	3.82E-02	1.67E-01	1.44E-01				
Methanol	1.80E-01	7.87E-01	7.63E-01				
Methylene Chloride	1.04E-02	4.54E-02	4.51E-02	Lead	1.96E-06	8.59E-06	2.11E-06
Naphthalene	6.94E-03	3.04E-02	2.96E-02	Arsenic	7.84E-07	3.44E-06	8.43E-07
Perylene	3.48E-07	1.52E-06	1.52E-06	Beryllium	4.71E-08	2.06E-07	5.06E-08
Phenol	2.95E-03	1.29E-02	1.29E-02	Cadmium	4.31E-06	1.89E-05	4.64E-06
POM / PAH*	9.66E-03	4.23E-02	4.12E-02	Chromium	5.49E-06	2.40E-05	5.90E-06
Styrene	3.86E-03	1.69E-02	1.68E-02	Cobalt	3.29E-07	1.44E-06	3.54E-07
Toluene	6.85E-02	3.00E-01	2.96E-01	Manganese	1.49E-06	6.53E-06	1.60E-06
Vinyl Chloride	1.74E-03	7.64E-03	7.58E-03	Mercury	1.02E-06	4.47E-06	1.10E-06
Xylene	1.92E-02	8.39E-02	8.23E-02	Nickel	8.24E-06	3.61E-05	8.85E-06
				Selenium	9.41E-08	4.12E-07	1.01E-07

*does not include naphthalene

Pollutants	Emission Factor (lb/mmscf)	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Unrestricted PTE (tpy)	Limited PTE (tpy)	EQUI 1	
NOx ¹	1.00E+02	0.098	0.39	1.72	0.42	Water Jacket Heater from Peerless with Natural Gas Fuel	
PM10 ^{2,*}	7.60E+00	0.0075	0.030	0.131	0.032		
PM2.5 ^{2,*}	7.60E+00	0.0075	0.030	0.131	0.032		
Total PM ²	7.60E+00	0.0075	0.030	0.131	0.032	Max Fuel Input (mil Btu)	
SO ₂ ²	6.00E-01	5.88E-04	2.35E-03	1.03E-02	2.53E-03	4	
VOC ²	5.50E+00	0.0054	0.022	0.094	0.023	Operating hours limit (hr)	
CO ¹	8.40E+01	0.082	0.33	1.44	0.35	2150	
Benzene	2.10E-03	2.06E-06	8.24E-06	3.61E-05	8.85E-06	*PM filterable added to condensable Emission Factor (lb/mmscf) PM (condensable) 5.70E+00 PM (filterable) 1.90E+00 7.60E+00 All emission factors from AP 42 - 7/1998 ¹ Table 1.4-1 ² Table 1.4-2 Table 1.4-3 ⁴ Table 1.4-4 ³ POM sub-part C, AP-42 Table 1.4-3	
1,4-Dichlorobenzene	1.20E-03	1.18E-06	4.71E-06	2.06E-05	5.06E-06		
Formaldehyde	7.50E-02	7.35E-05	2.94E-04	1.29E-03	3.16E-04		
Hexane	1.80E+00	0.0018	7.06E-03	3.09E-02	7.59E-03		
Naphthalene	6.10E-04	5.98E-07	2.39E-06	1.05E-05	2.57E-06		
POM ³	8.82E-05	8.65E-08	3.46E-07	1.51E-06	3.72E-07		
Toluene	3.40E-03	3.33E-06	1.33E-05	5.84E-05	1.43E-05		
Arsenic ⁴	2.00E-04	1.96E-07	7.84E-07	3.44E-06	8.43E-07		
Beryllium ⁴	1.20E-05	1.18E-08	4.71E-08	2.06E-07	5.06E-08		
Cadmium ⁴	1.10E-03	1.08E-06	4.31E-06	1.89E-05	4.64E-06		
Chromium ⁴	1.40E-03	1.37E-06	5.49E-06	2.40E-05	5.90E-06		
Lead ⁴	5.00E-04	4.90E-07	1.96E-06	8.59E-06	2.11E-06		
Cobalt ⁴	8.40E-05	8.24E-08	3.29E-07	1.44E-06	3.54E-07		
Manganese ⁴	3.80E-04	3.73E-07	1.49E-06	6.53E-06	1.60E-06		
Mercury ⁴	2.60E-04	2.55E-07	1.02E-06	4.47E-06	1.10E-06		
Nickel ⁴	2.10E-03	2.06E-06	8.24E-06	3.61E-05	8.85E-06		
Selenium ⁴	2.40E-05	2.35E-08	9.41E-08	4.12E-07	1.01E-07		
Total HAP	1.89E+00	0.0019	0.0074	0.032	0.0080		

POM	(lb/mmscf)		(lb/mmscf)		(lb/mmscf)
2-Methylnaphthalene	2.40E-05	Benzo(a)pyrene	1.20E-06	Phenanthrene	1.70E-05
3-Methylchloranthrene	1.80E-06	Benzo(b)fluoranthene	1.80E-06	Pyrene	5.00E-06
7,12-Dimethylbenz(a)anthracene	1.60E-05	Benzo(g,h,i)perylene	1.20E-06		
Dibenzo(a,h)anthracene	1.20E-06	Benzo(k)fluoranthene	1.80E-06	POM Total*	8.82E-05
Acenaphthene	1.80E-06	Chrysene	1.80E-06		
Acenaphthylene	1.80E-06	Fluoranthene	3.00E-06		
Anthracene	2.40E-06	Fluorene	2.80E-06		
Benz(a)anthracene	1.80E-06	Indeno(1,2,3-cd)pyrene	1.80E-06		

*(does not include Naphthalene)

Pollutants	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Unrestricted PTE (tpy)	Limited PTE (tpy)	EQUI 2			
Nox	3.17E+00	44.38	194.38	194.38	Max Fuel Input (mil Btu)	14		
PM10*	4.83E-02	0.68	2.96	2.96	Operating hours limit (hr)	8760		
PM2.5*	4.83E-02	0.68	2.96	2.96	Max Design capacity (hp)	1700		
Total PM	4.83E-02	0.68	2.96	2.96	Compressor Engine Clark TLA-5 2 -stroke lean burn engines with Natural Gas Fuel			
SO ₂	5.88E-04	0.0082	0.036	0.036				
VOC	1.20E-01	1.68	7.36	7.36				
CO	3.86E-01	5.40	23.67	23.67	All emission factors from AP 42 - Table 3.2-1 7/2000			
1,1,2,2-Tetrachloroethane	6.63E-05	9.28E-04	4.07E-03	4.07E-03				
1,1,2-Trichloroethane	5.27E-05	7.38E-04	3.23E-03	3.23E-03				
1,1-Dichloroethane	3.91E-05	5.47E-04	2.40E-03	2.40E-03				
1,2-Dichloroethane	4.22E-05	5.91E-04	2.59E-03	2.59E-03				
1,2-Dichloropropane	4.46E-05	6.24E-04	2.73E-03	2.73E-03				
1,3-Butadiene	8.20E-04	1.15E-02	5.03E-02	5.03E-02				
1,3-Dichloropropene	4.38E-05	6.13E-04	2.69E-03	2.69E-03				
2,2,4-Trimethylpentane	8.46E-04	1.18E-02	5.19E-02	5.19E-02				
Acetaldehyde	7.76E-03	1.09E-01	4.76E-01	4.76E-01			*PM filterable added to condensable	
Acrolein	7.78E-03	1.09E-01	4.77E-01	4.77E-01			PM (filterable)	3.84E-02
Benzene	1.94E-03	2.72E-02	1.19E-01	1.19E-01			PM (condensable)	9.91E-03
Biphenyl	3.95E-06	5.53E-05	2.42E-04	2.42E-04			4.83E-02	
Carbon Tetrachloride	6.07E-05	8.50E-04	3.72E-03	3.72E-03				
Chlorobenzene	4.44E-05	6.22E-04	2.72E-03	2.72E-03				
Chloroform	4.71E-05	6.59E-04	2.89E-03	2.89E-03				
Ethylbenzene	1.08E-04	1.51E-03	6.62E-03	6.62E-03				
Ethylene Dibromide	7.34E-05	1.03E-03	4.50E-03	4.50E-03				
Formaldehyde	5.52E-02	0.7728	3.3849	3.3849				
Methanol	2.48E-03	3.47E-02	1.52E-01	1.52E-01				
Methylene Chloride	1.47E-04	2.06E-03	9.01E-03	9.01E-03				
Naphthalene	9.63E-05	1.35E-03	5.91E-03	5.91E-03				
n-Hexane	4.45E-04	6.23E-03	2.73E-02	2.73E-02				
POM / PAH	1.34E-04	1.88E-03	8.22E-03	8.22E-03				
Perylene	4.97E-09	6.96E-08	3.05E-07	3.05E-07				
Phenol	4.21E-05	5.89E-04	2.58E-03	2.58E-03				
Styrene	5.48E-05	7.67E-04	3.36E-03	3.36E-03				
Toluene	9.63E-04	1.35E-02	5.91E-02	5.91E-02				
Vinyl Chloride	2.47E-05	3.46E-04	1.51E-03	1.51E-03				
Xylene	2.68E-04	3.75E-03	1.64E-02	1.64E-02				
Total HAP	7.96E-02	1.11	4.88	4.88				

Pollutants	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Unrestricted PTE (tpy)	Limited PTE (tpy)	EQUI 3	
Nox	3.17E+00	44.38	194.38	194.38	Max Fuel Input (mil Btu)	14
PM10*	4.83E-02	0.68	2.96	2.96	Operating hours limit (hr)	8760
PM2.5*	4.83E-02	0.68	2.96	2.96	Max Design capacity (hp)	1700
Total PM	4.83E-02	0.68	2.96	2.96	Compressor Engine Clark TLA-5 2 -stroke lean burn engines with Natural Gas Fuel	
SO ₂	5.88E-04	0.0082	0.036	0.036		
VOC	1.20E-01	1.68	7.36	7.36	All emission factors from AP 42 - Table 3.2-1 7/2000	
CO	3.86E-01	5.40	23.67	23.67		
1,1,2,2-Tetrachloroethane	6.63E-05	9.28E-04	4.07E-03	4.07E-03	*PM filterable added to condensable	
1,1,2-Trichloroethane	5.27E-05	7.38E-04	3.23E-03	3.23E-03		
1,1-Dichloroethane	3.91E-05	5.47E-04	2.40E-03	2.40E-03	PM (filterable)	3.84E-02
1,2-Dichloroethane	4.22E-05	5.91E-04	2.59E-03	2.59E-03	PM (condensable)	9.91E-03
1,2-Dichloropropane	4.46E-05	6.24E-04	2.73E-03	2.73E-03	4.83E-02	
1,3-Butadiene	8.20E-04	1.15E-02	5.03E-02	5.03E-02		
1,3-Dichloropropene	4.38E-05	6.13E-04	2.69E-03	2.69E-03		
2,2,4-Trimethylpentane	8.46E-04	1.18E-02	5.19E-02	5.19E-02		
Acetaldehyde	7.76E-03	1.09E-01	4.76E-01	4.76E-01		
Acrolein	7.78E-03	1.09E-01	4.77E-01	4.77E-01		
Benzene	1.94E-03	2.72E-02	1.19E-01	1.19E-01		
Biphenyl	3.95E-06	5.53E-05	2.42E-04	2.42E-04		
Carbon Tetrachloride	6.07E-05	8.50E-04	3.72E-03	3.72E-03		
Chlorobenzene	4.44E-05	6.22E-04	2.72E-03	2.72E-03		
Chloroform	4.71E-05	6.59E-04	2.89E-03	2.89E-03		
Ethylbenzene	1.08E-04	1.51E-03	6.62E-03	6.62E-03		
Ethylene Dibromide	7.34E-05	1.03E-03	4.50E-03	4.50E-03		
Formaldehyde	5.52E-02	0.7728	3.3849	3.3849		
Methanol	2.48E-03	3.47E-02	1.52E-01	1.52E-01		
Methylene Chloride	1.47E-04	2.06E-03	9.01E-03	9.01E-03		
Naphthalene	9.63E-05	1.35E-03	5.91E-03	5.91E-03		
n-Hexane	4.45E-04	6.23E-03	2.73E-02	2.73E-02		
POM / PAH	1.34E-04	1.88E-03	8.22E-03	8.22E-03		
Perylene	4.97E-09	6.96E-08	3.05E-07	3.05E-07		
Phenol	4.21E-05	5.89E-04	2.58E-03	2.58E-03		
Styrene	5.48E-05	7.67E-04	3.36E-03	3.36E-03		
Toluene	9.63E-04	1.35E-02	5.91E-02	5.91E-02		
Vinyl Chloride	2.47E-05	3.46E-04	1.51E-03	1.51E-03		
Xylene	2.68E-04	3.75E-03	1.64E-02	1.64E-02		
Total HAP	7.96E-02	1.11	4.88	4.88		

Pollutants	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Unrestricted PTE (tpy)	Limited PTE (tpy)	EQUI 4	
Nox	3.17E+00	44.38	194.38	194.38	Max Fuel Input (mil Btu)	14
PM10*	4.83E-02	0.68	2.96	2.96	Operating hours limit (hr)	8760
PM2.5*	4.83E-02	0.68	2.96	2.96	Max Design capacity (hp)	1700
Total PM	4.83E-02	0.68	2.96	2.96	Compressor Engine Clark TLA-5 2 -stroke lean burn engines with Natural Gas Fuel	
SO ₂	5.88E-04	0.0082	0.036	0.036		
VOC	1.20E-01	1.68	7.36	7.36	All emission factors from AP 42 - Table 3.2-1 7/2000	
CO	3.86E-01	5.40	23.67	23.67		
1,1,2,2-Tetrachloroethane	6.63E-05	9.28E-04	4.07E-03	4.07E-03	*PM filterable added to condensable	
1,1,2-Trichloroethane	5.27E-05	7.38E-04	3.23E-03	3.23E-03		
1,1-Dichloroethane	3.91E-05	5.47E-04	2.40E-03	2.40E-03	PM (filterable)	3.84E-02
1,2-Dichloroethane	4.22E-05	5.91E-04	2.59E-03	2.59E-03	PM (condensable)	9.91E-03
1,2-Dichloropropane	4.46E-05	6.24E-04	2.73E-03	2.73E-03	4.83E-02	
1,3-Butadiene	8.20E-04	1.15E-02	5.03E-02	5.03E-02		
1,3-Dichloropropene	4.38E-05	6.13E-04	2.69E-03	2.69E-03		
2,2,4-Trimethylpentane	8.46E-04	1.18E-02	5.19E-02	5.19E-02		
Acetaldehyde	7.76E-03	1.09E-01	4.76E-01	4.76E-01		
Acrolein	7.78E-03	1.09E-01	4.77E-01	4.77E-01		
Benzene	1.94E-03	2.72E-02	1.19E-01	1.19E-01		
Biphenyl	3.95E-06	5.53E-05	2.42E-04	2.42E-04		
Carbon Tetrachloride	6.07E-05	8.50E-04	3.72E-03	3.72E-03		
Chlorobenzene	4.44E-05	6.22E-04	2.72E-03	2.72E-03		
Chloroform	4.71E-05	6.59E-04	2.89E-03	2.89E-03		
Ethylbenzene	1.08E-04	1.51E-03	6.62E-03	6.62E-03		
Ethylene Dibromide	7.34E-05	1.03E-03	4.50E-03	4.50E-03		
Formaldehyde	5.52E-02	0.7728	3.3849	3.3849		
Methanol	2.48E-03	3.47E-02	1.52E-01	1.52E-01		
Methylene Chloride	1.47E-04	2.06E-03	9.01E-03	9.01E-03		
Naphthalene	9.63E-05	1.35E-03	5.91E-03	5.91E-03		
n-Hexane	4.45E-04	6.23E-03	2.73E-02	2.73E-02		
POM / PAH	1.34E-04	1.88E-03	8.22E-03	8.22E-03		
Perylene	4.97E-09	6.96E-08	3.05E-07	3.05E-07		
Phenol	4.21E-05	5.89E-04	2.58E-03	2.58E-03		
Styrene	5.48E-05	7.67E-04	3.36E-03	3.36E-03		
Toluene	9.63E-04	1.35E-02	5.91E-02	5.91E-02		
Vinyl Chloride	2.47E-05	3.46E-04	1.51E-03	1.51E-03		
Xylene	2.68E-04	3.75E-03	1.64E-02	1.64E-02		
Total HAP	7.96E-02	1.11	4.88	4.88		

Pollutants	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Unrestricted PTE (tpy)	Limited PTE (tpy)	EQUI 5	
Nox	3.17E+00	44.38	194.38	194.38	Max Fuel Input (mil Btu)	14
PM10*	4.83E-02	0.68	2.96	2.96	Operating hours limit (hr)	8760
PM2.5*	4.83E-02	0.68	2.96	2.96	Max Design capacity (hp)	1700
Total PM	4.83E-02	0.68	2.96	2.96	Compressor Engine Clark TLA-5 2 -stroke lean burn engines with Natural Gas Fuel	
SO ₂	5.88E-04	0.0082	0.036	0.036		
VOC	1.20E-01	1.68	7.36	7.36	All emission factors from AP 42 - Table 3.2-1 7/2000	
CO	3.86E-01	5.40	23.67	23.67		
1,1,2,2-Tetrachloroethane	6.63E-05	9.28E-04	4.07E-03	4.07E-03	*PM filterable added to condensable	
1,1,2-Trichloroethane	5.27E-05	7.38E-04	3.23E-03	3.23E-03		
1,1-Dichloroethane	3.91E-05	5.47E-04	2.40E-03	2.40E-03	PM (filterable)	3.84E-02
1,2-Dichloroethane	4.22E-05	5.91E-04	2.59E-03	2.59E-03	PM (condensable)	9.91E-03
1,2-Dichloropropane	4.46E-05	6.24E-04	2.73E-03	2.73E-03	4.83E-02	
1,3-Butadiene	8.20E-04	1.15E-02	5.03E-02	5.03E-02		
1,3-Dichloropropene	4.38E-05	6.13E-04	2.69E-03	2.69E-03		
2,2,4-Trimethylpentane	8.46E-04	1.18E-02	5.19E-02	5.19E-02		
Acetaldehyde	7.76E-03	1.09E-01	4.76E-01	4.76E-01		
Acrolein	7.78E-03	1.09E-01	4.77E-01	4.77E-01		
Benzene	1.94E-03	2.72E-02	1.19E-01	1.19E-01		
Biphenyl	3.95E-06	5.53E-05	2.42E-04	2.42E-04		
Carbon Tetrachloride	6.07E-05	8.50E-04	3.72E-03	3.72E-03		
Chlorobenzene	4.44E-05	6.22E-04	2.72E-03	2.72E-03		
Chloroform	4.71E-05	6.59E-04	2.89E-03	2.89E-03		
Ethylbenzene	1.08E-04	1.51E-03	6.62E-03	6.62E-03		
Ethylene Dibromide	7.34E-05	1.03E-03	4.50E-03	4.50E-03		
Formaldehyde	5.52E-02	0.7728	3.3849	3.3849		
Methanol	2.48E-03	3.47E-02	1.52E-01	1.52E-01		
Methylene Chloride	1.47E-04	2.06E-03	9.01E-03	9.01E-03		
Naphthalene	9.63E-05	1.35E-03	5.91E-03	5.91E-03		
n-Hexane	4.45E-04	6.23E-03	2.73E-02	2.73E-02		
POM / PAH	1.34E-04	1.88E-03	8.22E-03	8.22E-03		
Perylene	4.97E-09	6.96E-08	3.05E-07	3.05E-07		
Phenol	4.21E-05	5.89E-04	2.58E-03	2.58E-03		
Styrene	5.48E-05	7.67E-04	3.36E-03	3.36E-03		
Toluene	9.63E-04	1.35E-02	5.91E-02	5.91E-02		
Vinyl Chloride	2.47E-05	3.46E-04	1.51E-03	1.51E-03		
Xylene	2.68E-04	3.75E-03	1.64E-02	1.64E-02		
Total HAP	7.96E-02	1.11	4.88	4.88		

Pollutants	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Unrestricted PTE (tpy)	Limited PTE (tpy)	EQUI 6	
Nox	3.17E+00	44.38	194.38	194.38	Max Fuel Input (mil Btu)	14
PM10*	4.83E-02	0.68	2.96	2.96	Operating hours limit (hr)	8760
PM2.5*	4.83E-02	0.68	2.96	2.96	Max Design capacity (hp)	1700
Total PM	4.83E-02	0.68	2.96	2.96	Compressor Engine Clark TLA-5 2 -stroke lean burn engines with Natural Gas Fuel	
SO ₂	5.88E-04	0.0082	0.036	0.036		
VOC	1.20E-01	1.68	7.36	7.36	All emission factors from AP 42 - Table 3.2-1 7/2000	
CO	3.86E-01	5.40	23.67	23.67		
1,1,2,2-Tetrachloroethane	6.63E-05	9.28E-04	4.07E-03	4.07E-03	*PM filterable added to condensable	
1,1,2-Trichloroethane	5.27E-05	7.38E-04	3.23E-03	3.23E-03		
1,1-Dichloroethane	3.91E-05	5.47E-04	2.40E-03	2.40E-03	PM (filterable)	3.84E-02
1,2-Dichloroethane	4.22E-05	5.91E-04	2.59E-03	2.59E-03	PM (condensable)	9.91E-03
1,2-Dichloropropane	4.46E-05	6.24E-04	2.73E-03	2.73E-03	4.83E-02	
1,3-Butadiene	8.20E-04	1.15E-02	5.03E-02	5.03E-02		
1,3-Dichloropropene	4.38E-05	6.13E-04	2.69E-03	2.69E-03		
2,2,4-Trimethylpentane	8.46E-04	1.18E-02	5.19E-02	5.19E-02		
Acetaldehyde	7.76E-03	1.09E-01	4.76E-01	4.76E-01		
Acrolein	7.78E-03	1.09E-01	4.77E-01	4.77E-01		
Benzene	1.94E-03	2.72E-02	1.19E-01	1.19E-01		
Biphenyl	3.95E-06	5.53E-05	2.42E-04	2.42E-04		
Carbon Tetrachloride	6.07E-05	8.50E-04	3.72E-03	3.72E-03		
Chlorobenzene	4.44E-05	6.22E-04	2.72E-03	2.72E-03		
Chloroform	4.71E-05	6.59E-04	2.89E-03	2.89E-03		
Ethylbenzene	1.08E-04	1.51E-03	6.62E-03	6.62E-03		
Ethylene Dibromide	7.34E-05	1.03E-03	4.50E-03	4.50E-03		
Formaldehyde	5.52E-02	0.7728	3.3849	3.3849		
Methanol	2.48E-03	3.47E-02	1.52E-01	1.52E-01		
Methylene Chloride	1.47E-04	2.06E-03	9.01E-03	9.01E-03		
Naphthalene	9.63E-05	1.35E-03	5.91E-03	5.91E-03		
n-Hexane	4.45E-04	6.23E-03	2.73E-02	2.73E-02		
POM / PAH	1.34E-04	1.88E-03	8.22E-03	8.22E-03		
Perylene	4.97E-09	6.96E-08	3.05E-07	3.05E-07		
Phenol	4.21E-05	5.89E-04	2.58E-03	2.58E-03		
Styrene	5.48E-05	7.67E-04	3.36E-03	3.36E-03		
Toluene	9.63E-04	1.35E-02	5.91E-02	5.91E-02		
Vinyl Chloride	2.47E-05	3.46E-04	1.51E-03	1.51E-03		
Xylene	2.68E-04	3.75E-03	1.64E-02	1.64E-02		
Total HAP	7.96E-02	1.11	4.88	4.88		

Max Fuel Input (mil Btu)		Operating hours limit (hr)		Max Design capacity (hp)	
2		720		120	
Pollutants	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Unrestricted PTE (tpy)	Limited PTE (tpy)	EQUI 7
NOx	2.21E+00	4.42	19.36	1.59	
PM10*	1.94E-02	0.039	0.17	0.014	
PM2.5*	1.94E-02	0.039	0.17	0.014	
Total PM	1.94E-02	0.039	0.17	0.014	
SO ₂	5.88E-04	0.0012	0.0052	0.0004	
VOC	2.96E-02	0.059	0.26	0.021	
CO	3.72E+00	7.44	32.59	2.68	
1,1,2,2-Tetrachloroethane	2.53E-05	5.06E-05	2.22E-04	1.82E-05	
1,1,2-Trichloroethane	1.53E-05	3.06E-05	1.34E-04	1.10E-05	
1,1-Dichloroethane	1.13E-05	2.26E-05	9.90E-05	8.14E-06	
1,2-Dichloroethane	1.13E-05	2.26E-05	9.90E-05	8.14E-06	
1,2-Dichloropropane	1.30E-05	2.60E-05	1.14E-04	9.36E-06	
1,3-Butadiene	6.63E-04	1.33E-03	5.81E-03	4.77E-04	
1,3-Dichloropropene	1.27E-05	2.54E-05	1.11E-04	9.14E-06	
Acetaldehyde	2.79E-03	5.58E-03	2.44E-02	2.01E-03	
Acrolein	2.63E-03	5.26E-03	2.30E-02	1.89E-03	
Benzene	1.58E-03	3.16E-03	1.38E-02	1.14E-03	
Carbon Tetrachloride	1.77E-05	3.54E-05	1.55E-04	1.27E-05	
Chlorobenzene	1.29E-05	2.58E-05	1.13E-04	9.29E-06	
Chloroform	1.37E-05	2.74E-05	1.20E-04	9.86E-06	
Ethylbenzene	2.48E-05	4.96E-05	2.17E-04	1.79E-05	
Ethylene Dibromide	2.13E-05	4.26E-05	1.87E-04	1.53E-05	
Formaldehyde	2.05E-02	4.10E-02	1.80E-01	1.48E-02	
Methanol	3.06E-03	6.12E-03	2.68E-02	2.20E-03	
Methylene Chloride	4.12E-05	8.24E-05	3.61E-04	2.97E-05	
Naphthalene	9.71E-05	1.94E-04	8.51E-04	6.99E-05	
POM / PAH**	1.41E-04	2.82E-04	1.24E-03	1.02E-04	
Styrene	1.19E-05	2.38E-05	1.04E-04	8.57E-06	
Toluene	5.58E-04	1.12E-03	4.89E-03	4.02E-04	
Vinyl Chloride	7.18E-06	1.44E-05	6.29E-05	5.17E-06	
Xylene	1.95E-04	3.90E-04	1.71E-03	1.40E-04	
Total HAP	3.25E-02	0.065	0.28	0.023	

**does not include naphthalene

*PM filterable added to condensable

PM (filterable)	9.50E-03
PM (condensable)	9.91E-03
	1.94E-02

Greenhouse Gas (GHG) Emissions (lb/hr)								Total
Fuel Use (mmBtu/hr)	4	14	14	14	14	14	2	GHG
Operating Hours (hr)	2150	8760	8760	8760	8760	8760	720	lb/hr
Emission Units	EQUI 1	EQUI 2	EQUI 3	EQUI 4	EQUI 5	EQUI 6	EQUI 7	
CO ₂	468	1638	1638	1638	1638	1638	234	8890
CH ₄	0.0088	3.09E-02	3.09E-02	3.09E-02	3.09E-02	3.09E-02	0.0044	0.168
N ₂ O	8.82E-04	3.09E-03	3.09E-03	3.09E-03	3.09E-03	3.09E-03	4.41E-04	0.017
CH ₄ as CO ₂ e	0.22	0.772	0.772	0.772	0.772	0.772	0.110	4.19
N ₂ O as CO ₂ e	0.26	0.920	0.920	0.920	0.920	0.920	0.131	4.99
Total CO ₂ + CO ₂ e	468	1639	1639	1639	1639	1639	234	8899

Warehouse Space Heater
0.2
8760
lb/hr
23.4
4.41E-04
4.41E-05
0.0110
0.0131
23.42

Greenhouse Gas (GHG) Emissions (tons/yr)								ton/yr
CO ₂	503	7173	7173	7173	7173	7173	84	36452
CH ₄	0.009	0.135	0.135	0.135	0.135	0.135	1.59E-03	0.687
N ₂ O	0.0009	0.0135	0.0135	0.0135	0.0135	0.0135	1.59E-04	0.069
CH ₄ as CO ₂ e	0.24	3.38	3.38	3.38	3.38	3.38	0.040	17.18
N ₂ O as CO ₂ e	0.28	4.03	4.03	4.03	4.03	4.03	0.047	20.47
Total CO ₂ + CO ₂ e	504	7180	7180	7180	7180	7180	84	36490

ton/yr
102
1.93E-03
1.93E-04
0.0483
0.0576
102.6

2051.56

1025.78

38980

Table C-1 to subpart C of Part 98
 Default CO₂ Emission Factors and High Heat Values for Various Types of Fuel 11/2013

emission factor					
Natural gas	53.06 kg CO ₂ /mmBtu	116.98	lb CO ₂ /mmBtu	2.2046	lb
					kg

Table C-2 to subpart C of Part 98
 Default CH₄ and N₂O Emission Factors for Various Types of Fuel 11/2013

emission factor			
Natural gas	1.00E-03 kg CH ₄ /mmBtu	2.20E-03	lb CH ₄ /mmBtu
	1.00E-04 kg N ₂ O /mmBtu	2.20E-04	lb N ₂ O /mmBtu

Table A-1 to subpart A of Part 98
 Global Warming Potentials [100-Year Time Horizon] 1/2014

CO ₂	1
CH ₄	25
N ₂ O	298

Insignificant Heater Information

Minn. R. 7007.1300, subp. 3(l)

Description	Combustor Type	Burner Design (mmBtu/hr)	Fuel Consumption (mmscf/hr)	Fuel Consumption (mmscf/yr)	Fuel HHV (btu/scf)	Operating Hours
Garage SH	Uncontrolled	0.0800	7.80E-05	0.6830	1026	8760
Garage SH	Uncontrolled	0.0800	7.80E-05	0.6830	1026	8760
Garage SH	Uncontrolled	0.0800	7.80E-05	0.6830	1026	8760
Warehouse SH	Uncontrolled	0.2000	1.95E-04	1.7076	1026	8760
Total		0.4400				

Warehouse Space Heater

Max Fuel Input (mil Btu)		0.2	Operating hours limit (hr)		8760	Fuel HHV (Btu/scf)		1026				
Pollutants	Emission Factor (lb/mmscf)	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Unrestricted PTE (lb/yr)								
NOx ¹	1.00E+02	0.0975	0.019	170.8	All emission factors from AP 42 - 7/1998							
PM10 ^{2,*}	7.60E+00	0.0074	<0.001	12.98								
PM2.5 ^{2,*}	7.60E+00	0.0074	<0.001	12.98								
Total PM ²	7.60E+00	0.0074	<0.001	12.98								
SO ₂ ²	6.00E-01	0.0006	<0.001	1.02								
VOC ²	5.50E+00	0.0054	<0.001	9.39								
CO ¹	8.40E+01	0.0819	0.016	143.4								
Acenaphthene	1.80E-06	1.75E-09	<0.001	<0.001					³ POM sub-part C, AP-42 Table 1.4-3			
Acenaphthylene	1.80E-06	1.75E-09	<0.001	<0.001								
Anthracene	2.40E-06	2.34E-09	<0.001	<0.001								
Benz(a)anthracene	1.80E-06	1.75E-09	<0.001	<0.001								
Benzene	2.10E-03	2.05E-06	<0.001	<0.001								
Benzo(a)pyrene	1.20E-06	1.17E-09	<0.001	<0.001								
Benzo(b)fluoranthene	1.80E-06	1.75E-09	<0.001	<0.001								
Benzo(g,h,i)perylene	1.20E-06	1.17E-09	<0.001	<0.001								
Benzo(k)fluoranthene	1.80E-06	1.75E-09	<0.001	<0.001								
Chrysene	1.80E-06	1.75E-09	<0.001	<0.001								
1,4-Dichlorobenzene	1.20E-03	1.17E-06	<0.001	<0.001								
Fluoranthene	3.00E-06	2.92E-09	<0.001	<0.001								
Fluorene	2.80E-06	2.73E-09	<0.001	<0.001								
Formaldehyde	7.50E-02	7.31E-05	<0.001	0.1								
Hexane	1.80E+00	1.75E-03	<0.001	3.07								
Indeno(1,2,3-cd)pyrene	1.80E-06	1.75E-09	<0.001	<0.001								
Naphthalene	6.10E-04	5.95E-07	<0.001	<0.001								
Phenanthrene	1.70E-05	1.66E-08	<0.001	<0.001								
POM ³	8.82E-05	8.60E-08	<0.001	<0.001								
Pyrene	5.00E-06	4.87E-09	<0.001	<0.001								
Toluene	3.40E-03	3.31E-06	<0.001	<0.011								
Arsenic ⁴	2.00E-04	1.95E-07	<0.001	<0.001								
Beryllium ⁴	1.20E-05	1.17E-08	<0.001	<0.001								
Cadmium ⁴	1.10E-03	1.07E-06	<0.001	<0.001								
Chromium ⁴	1.40E-03	1.36E-06	<0.001	<0.001								
Lead ⁴	5.00E-04	4.87E-07	<0.001	<0.001								
Cobalt ⁴	8.40E-05	8.19E-08	<0.001	<0.001	1.70E-05							
Manganese ⁴	3.80E-04	3.70E-07	<0.001	<0.001	5.00E-06							
Mercury ⁴	2.60E-04	2.53E-07	<0.001	<0.001								
Nickel ⁴	2.10E-03	2.05E-06	<0.001	<0.001	8.82E-05							
Selenium ⁴	2.40E-05	2.34E-08	<0.001	<0.001								
Total HAP	1.89E+00	0.0018	0.0004	3.22	5.70E+00							
POM					(does not include Naphthalene 7.60E+00							
2-Methylnaphthalene	2.40E-05	Benzo(a)pyrene	1.20E-06	Phenanthrene								
3-Methylchloranthrene	1.80E-06	Benzo(b)fluoranthene	1.80E-06	Pyrene								
7,12-Dimethylbenz(a)anthracene	1.60E-05	Benzo(g,h,i)perylene	1.20E-06	Total								
Dibenzo(a,h)anthracene	1.20E-06	Benzo(k)fluoranthene	1.80E-06									
Acenaphthene	1.80E-06	Chrysene	1.80E-06									
Acenaphthylene	1.80E-06	Fluoranthene	3.00E-06	*PM filterable added to condensable								
Anthracene	2.40E-06	Fluorene	2.80E-06	PM (condensable)								
Benz(a)anthracene	1.80E-06	Indeno(1,2,3-cd)pyrene	1.80E-06	PM (filterable)								

Facility: Vik Facility: Viking Gas Transmission - Humboldt
 Facility ID: I Facility ID: 06900015 (AI ID 598)
 Inventory Y Inventory Year: 2016

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
EU002	EQUI3	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	EU002PD001	Natural gas	20200252	AMMONIA	SLT EF NCE	NATURAL GAS	12.40	E6FT3	1.800E+1	LB/E6FT3				0.1116	0.1116	TON
EU002	EQUI3	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	EU002PD001	Natural gas	20200252	CO	USEPA EF NCE	NATURAL GAS	12.40	E6FT3	3.937E+2	LB/E6FT3				2.441	2.441	TON
EU002	EQUI3	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	EU002PD001	Natural gas	20200252	NOX	USEPA EF NCE	NATURAL GAS	12.40	E6FT3	3.233E+3	LB/E6FT3				20.05	20.05	TON
EU002	EQUI3	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	EU002PD001	Natural gas	20200252	PM-CON	USEPA EF NCE	NATURAL GAS	12.40	E6FT3	1.400E-1	LB/E6FT3				0.000868	0.000868	TON
EU002	EQUI3	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	EU002PD001	Natural gas	20200252	PM-FIL	USEPA EF NCE	NATURAL GAS	12.40	E6FT3	1.700E-1	LB/E6FT3				0.001054	0.001054	TON
EU002	EQUI3	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	EU002PD001	Natural gas	20200252	PM10-FIL	USEPA EF NCE	NATURAL GAS	12.40	E6FT3	1.700E-1	LB/E6FT3				0.001054	0.001054	TON
EU002	EQUI3	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	EU002PD001	Natural gas	20200252	PM25-FIL	SLT SPEC	PM10-FIL	.00	TON	2.941E-1	LB/LB				0.00031	0.00031	TON
EU002	EQUI3	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	EU002PD001	Natural gas	20200252	SO2	USEPA EF NCE	NATURAL GAS	12.40	E6FT3	5.998E-1	LB/E6FT3				0.003719	0.003719	TON
EU002	EQUI3	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	EU002PD001	Natural gas	20200252	VOC	USEPA EF NCE	NATURAL GAS	12.40	E6FT3	1.224E+2	LB/E6FT3				0.7589	0.7589	TON
EU003	EQUI4	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	EU003PD001	Natural gas	20200252	AMMONIA	SLT EF NCE	NATURAL GAS	19.92	E6FT3	1.800E+1	LB/E6FT3				0.1793	0.1793	TON
EU003	EQUI4	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	EU003PD001	Natural gas	20200252	CO	USEPA EF NCE	NATURAL GAS	19.92	E6FT3	3.937E+2	LB/E6FT3				3.921	3.921	TON
EU003	EQUI4	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	EU003PD001	Natural gas	20200252	NOX	USEPA EF NCE	NATURAL GAS	19.92	E6FT3	3.233E+3	LB/E6FT3				32.20	32.2	TON
EU003	EQUI4	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	EU003PD001	Natural gas	20200252	PM-CON	USEPA EF NCE	NATURAL GAS	19.92	E6FT3	1.400E-1	LB/E6FT3				0.001394	0.001394	TON
EU003	EQUI4	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	EU003PD001	Natural gas	20200252	PM-FIL	USEPA EF NCE	NATURAL GAS	19.92	E6FT3	1.700E-1	LB/E6FT3				0.001693	0.001693	TON
EU003	EQUI4	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	EU003PD001	Natural gas	20200252	PM10-FIL	USEPA EF NCE	NATURAL GAS	19.92	E6FT3	1.700E-1	LB/E6FT3				0.001693	0.001693	TON
EU003	EQUI4	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	EU003PD001	Natural gas	20200252	PM25-FIL	SLT SPEC	PM10-FIL	.00	TON	2.941E-1	LB/LB				0.0004979	0.0004979	TON
EU003	EQUI4	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	EU003PD001	Natural gas	20200252	SO2	USEPA EF NCE	NATURAL GAS	19.92	E6FT3	5.998E-1	LB/E6FT3				0.005974	0.005974	TON
EU003	EQUI4	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	EU003PD001	Natural gas	20200252	VOC	USEPA EF NCE	NATURAL GAS	19.92	E6FT3	1.224E+2	LB/E6FT3				1.219	1.219	TON
EU004	EQUI5	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	EU004PD001	Natural gas	20200252	AMMONIA	SLT EF NCE	NATURAL GAS	9.39	E6FT3	1.800E+1	LB/E6FT3				0.08451	0.08451	TON
EU004	EQUI5	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	EU004PD001	Natural gas	20200252	CO	USEPA EF NCE	NATURAL GAS	9.39	E6FT3	3.937E+2	LB/E6FT3				1.849	1.849	TON
EU004	EQUI5	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	EU004PD001	Natural gas	20200252	NOX	USEPA EF NCE	NATURAL GAS	9.39	E6FT3	3.233E+3	LB/E6FT3				15.18	15.18	TON
EU004	EQUI5	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	EU004PD001	Natural gas	20200252	PM-CON	USEPA EF NCE	NATURAL GAS	9.39	E6FT3	1.400E-1	LB/E6FT3				0.0006573	0.0006573	TON
EU004	EQUI5	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	EU004PD001	Natural gas	20200252	PM-FIL	USEPA EF NCE	NATURAL GAS	9.39	E6FT3	1.700E-1	LB/E6FT3				0.0007982	0.0007982	TON
EU004	EQUI5	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	EU004PD001	Natural gas	20200252	PM10-FIL	USEPA EF NCE	NATURAL GAS	9.39	E6FT3	1.700E-1	LB/E6FT3				0.0007982	0.0007982	TON
EU004	EQUI5	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	EU004PD001	Natural gas	20200252	PM25-FIL	SLT SPEC	PM10-FIL	.00	TON	2.941E-1	LB/LB				0.0002348	0.0002348	TON
EU004	EQUI5	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	EU004PD001	Natural gas	20200252	SO2	USEPA EF NCE	NATURAL GAS	9.39	E6FT3	5.998E-1	LB/E6FT3				0.002816	0.002816	TON
EU004	EQUI5	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	EU004PD001	Natural gas	20200252	VOC	USEPA EF NCE	NATURAL GAS	9.39	E6FT3	1.224E+2	LB/E6FT3				0.5747	0.5747	TON
EU005	EQUI6	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	EU005PD001	Natural gas	20200252	AMMONIA	SLT EF NCE	NATURAL GAS	18.17	E6FT3	1.800E+1	LB/E6FT3				0.1635	0.1635	TON
EU005	EQUI6	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	EU005PD001	Natural gas	20200252	CO	USEPA EF NCE	NATURAL GAS	18.17	E6FT3	3.937E+2	LB/E6FT3				3.577	3.577	TON
EU005	EQUI6	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	EU005PD001	Natural gas	20200252	NOX	USEPA EF NCE	NATURAL GAS	18.17	E6FT3	3.233E+3	LB/E6FT3				29.38	29.38	TON
EU005	EQUI6	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	EU005PD001	Natural gas	20200252	PM-CON	USEPA EF NCE	NATURAL GAS	18.17	E6FT3	1.400E-1	LB/E6FT3				0.001272	0.001272	TON
EU005	EQUI6	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	EU005PD001	Natural gas	20200252	PM-FIL	USEPA EF NCE	NATURAL GAS	18.17	E6FT3	1.700E-1	LB/E6FT3				0.001544	0.001544	TON
EU005	EQUI6	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	EU005PD001	Natural gas	20200252	PM10-FIL	USEPA EF NCE	NATURAL GAS	18.17	E6FT3	1.700E-1	LB/E6FT3				0.001544	0.001544	TON
EU005	EQUI6	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	EU005PD001	Natural gas	20200252	PM25-FIL	SLT SPEC	PM10-FIL	.00	TON	2.941E-1	LB/LB				0.0004541	0.0004541	TON
EU005	EQUI6	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	EU005PD001	Natural gas	20200252	SO2	USEPA EF NCE	NATURAL GAS	18.17	E6FT3	5.998E-1	LB/E6FT3				0.005449	0.005449	TON
EU005	EQUI6	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	EU005PD001	Natural gas	20200252	VOC	USEPA EF NCE	NATURAL GAS	18.17	E6FT3	1.224E+2	LB/E6FT3				1.112	1.112	TON
EU006	EQUI7	Reciprocating Engine-Emergency Generator (4SRB)	EU006PD001	Natural gas	20200253	AMMONIA	SLT EF NCE	NATURAL GAS	.05	E6FT3	1.800E+1	LB/E6FT3				0.00045	0.00045	TON
EU006	EQUI7	Reciprocating Engine-Emergency Generator (4SRB)	EU006PD001	Natural gas	20200253	CO	OTHER EF NCE	HEAT	54.80	E6BTU	3.720E+0	LB/E6BTU				0.1019	0.1019	TON
EU006	EQUI7	Reciprocating Engine-Emergency Generator (4SRB)	EU006PD001	Natural gas	20200253	NOX	OTHER EF NCE	HEAT	54.80	E6BTU	2.210E+0	LB/E6BTU				0.06055	0.06055	TON
EU006	EQUI7	Reciprocating Engine-Emergency Generator (4SRB)	EU006PD001	Natural gas	20200253	PM-CON	USEPA EF NCE	NATURAL GAS	.05	E6FT3	1.400E-1	LB/E6FT3				0.0000035	0.0000035	TON

EU006	EQUI7	Reciprocating Engine-Emergency Generator (4SRB)	EU006PD001	Natural gas	20200253	PM-FIL	OTHER EF NCE	HEAT	54.80 E6BTU	1.940E-2 LB/E6BTU	0.0005316	0.0005316 TON
EU006	EQUI7	Reciprocating Engine-Emergency Generator (4SRB)	EU006PD001	Natural gas	20200253	PM10-FIL	OTHER EF NCE	HEAT	54.80 E6BTU	1.940E-2 LB/E6BTU	0.0005316	0.0005316 TON
EU006	EQUI7	Reciprocating Engine-Emergency Generator (4SRB)	EU006PD001	Natural gas	20200253	PM25-FIL	SLT SPEC	PM10-FIL	.00 TON	2.941E-1 LB/LB	0.0001564	0.0001564 TON
EU006	EQUI7	Reciprocating Engine-Emergency Generator (4SRB)	EU006PD001	Natural gas	20200253	SO2	OTHER EF NCE	HEAT	54.80 E6BTU	5.880E-4 LB/E6BTU	0.00001611	0.00001611 TON
EU006	EQUI7	Reciprocating Engine-Emergency Generator (4SRB)	EU006PD001	Natural gas	20200253	VOC	OTHER EF NCE	HEAT	54.80 E6BTU	2.960E-2 LB/E6BTU	0.000811	0.000811 TON
EU007	EQUI11	Water Jacket Heater	EU007PD001	Natural gas	10200603	AMMONIA	USEPA EF NCE	NATURAL GAS	7.05 E6FT3	3.200E+0 LB/E6FT3	0.01128	0.01128 TON
EU007	EQUI11	Water Jacket Heater	EU007PD001	Natural gas	10200603	CO	USEPA EF NCE	NATURAL GAS	7.05 E6FT3	8.400E+1 LB/E6FT3	0.2961	0.2961 TON
EU007	EQUI11	Water Jacket Heater	EU007PD001	Natural gas	10200603	NOX	USEPA EF NCE	NATURAL GAS	7.05 E6FT3	1.000E+2 LB/E6FT3	0.3525	0.3525 TON
EU007	EQUI11	Water Jacket Heater	EU007PD001	Natural gas	10200603	PM-CON	USEPA EF NCE	NATURAL GAS	7.05 E6FT3	3.200E-1 LB/E6FT3	0.001128	0.001128 TON
EU007	EQUI11	Water Jacket Heater	EU007PD001	Natural gas	10200603	PM-FIL	USEPA EF NCE	NATURAL GAS	7.05 E6FT3	2.000E-1 LB/E6FT3	0.000705	0.000705 TON
EU007	EQUI11	Water Jacket Heater	EU007PD001	Natural gas	10200603	PM10-FIL	USEPA EF NCE	NATURAL GAS	7.05 E6FT3	2.000E-1 LB/E6FT3	0.000705	0.000705 TON
EU007	EQUI11	Water Jacket Heater	EU007PD001	Natural gas	10200603	PM25-FIL	SLT SPEC	PM10-FIL	.00 TON	5.500E-1 LB/LB	0.0003878	0.0003878 TON
EU007	EQUI11	Water Jacket Heater	EU007PD001	Natural gas	10200603	SO2	USEPA EF NCE	NATURAL GAS	7.05 E6FT3	6.000E-1 LB/E6FT3	0.002115	0.002115 TON
EU007	EQUI11	Water Jacket Heater	EU007PD001	Natural gas	10200603	VOC	USEPA EF NCE	NATURAL GAS	7.05 E6FT3	5.500E+0 LB/E6FT3	0.01939	0.01939 TON

Total(TON)	AMMONIA	0.551
	CO	12.186
	LEAD ¹	0.000
	PM25-FIL	0.002
	PM-FIL	0.006
	PM10-FIL ^{1,2}	0.006
	PM-CON ^{1,2}	0.005
	NOX ¹	97.223
	SO2 ¹	0.020
	VOC ¹	3.685
	¹ Total Billable	100.940

²PM10 Primary = PM Condensable + PM10 Filterable

Attachment 2 – Subject item inventory and facility requirements

List of SIs

Agency Interest: Viking Gas Transmission - Humboldt













Agency Interest ID: 598

Activity: IND20160001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	SI Designation and Description	
Viking Gas Transmission - Humboldt	ACTV1	Null All IAs	
	AISI598	Null Null	
	EQUI1	EU007 Water Jacket Heater	
	EQUI2	EU001 Reciprocating Engine #1A (Clark 1700 hp 2SLB)	
	EQUI3	EU002 Reciprocating Engine #2A (Clark 1700 hp 2SLB)	
	EQUI4	EU003 Reciprocating Engine #3A (Clark 1700 hp 2SLB)	
	EQUI5	EU004 Reciprocating Engine #4A (Clark 1700 hp 2SLB)	
	EQUI6	EU005 Reciprocating Engine #5A (Clark 1700 hp 2SLB)	
	EQUI7	EU006 Reciprocating Engine-Emergency Generator (4SRB)	
	STRU1	SV001 Null	
	STRU2	SV002 Null	
	STRU3	SV003 Null	

List of SIs

Agency Interest: Viking Gas Transmission - Humboldt









Agency Interest ID: 598

Activity: IND20160001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	SI Designation and Description	
Viking Gas Transmission - Humboldt	STRU4	SV004 Null	
	STRU5	SV005 Null	
	STRU6	SV006 Null	
	STRU7	SV007 Null	
	STRU8	Null Compressor Building/Office	
	STRU9	Null Garage/Shop	
	STRU10	Null Utility/Storage	
	TFAC1	06900015 Viking Gas Transmission - Humboldt	

Insignificant air emissions activity

Agency Interest: Viking Gas Transmission - Humboldt



Agency Interest ID: 598

Activity: IND20160001 (Part 70 Reissuance)

Details for:

SI Category: Activity

SI Type: Insignificant Air Emissions Activity

Agency Interest Na..	Activity ID	Subject Ite..	Subject Item Type Description	Subject Item ID	SI Designation and Description	Status Desc..	Sub Attribute Description	
Viking Gas Transmission - Humboldt	IND20160001	Activity	Insignificant Air Emissions Activity	ACTV1	Null All IAs	Active/ Existing	Minn. R. 7007.1300, subp. 3(H)(3)	
							Minn. R. 7007.1300, subp. 3(I)	

PTE by subject item

Agency Interest: None

Agency Interest ID: 598

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: All

Subject Item Category Description	Subject Item Type Description	Subject Item ID	Subject Item Designation	Subject Item Description	Pollutant	Potential (lbs/hr)	Unrestricted Potential (tons/yr)	Potential Limited (tons/yr)	Actual Emissions (tons/yr)					
Equipment	Process Heater	EQUI1	EU007	Water Jacket Heater	1,4-Dichlorobenzene (par..	4.71e-06	2.06e-05	5.06e-06						
					Arsenic compounds	7.84e-07	3.44e-06	8.43e-07						
					Benzene	8.24e-06	3.61e-05	8.85e-06						
					Beryllium	4.71e-08	2.06e-07	5.06e-08						
					Cadmium compounds	4.31e-06	1.89e-05	4.64e-06						
					Carbon Dioxide Equivalent	468	2,052	504						
					Carbon Monoxide	0.329	1.44	0.354						
					Chromium compounds	5.49e-06	2.4e-05	5.9e-06						
					Cobalt compounds	3.29e-07	1.44e-06	3.54e-07						
					Formaldehyde	0.000294	0.00129	0.000316						
					HAPs - Total	0.00741	0.0324	0.00796						
					Hexane	0.00706	0.0309	0.00759						
					Lead	1.96e-06	8.59e-06	2.11e-06						
					Manganese compounds	1.49e-06	6.53e-06	1.6e-06						
					Mercury	1.02e-06	4.47e-06	1.1e-06						
					Naphthalene	2.39e-06	1.05e-05	2.57e-06						
					Nickel compounds	8.24e-06	3.61e-05	8.85e-06						
					Nitrogen Oxides	0.392	1.72	0.422						
					Particulate Matter	0.0298	0.131	0.032						
					PM < 2.5 micron	0.0298	0.131	0.032						
					PM < 10 micron	0.0298	0.131	0.032						
					Polycyclic organic matter	3.46e-07	1.51e-06	3.72e-07						
					Selenium compounds	9.41e-08	4.12e-07	1.01e-07						
					Sulfur Dioxide	0.00235	0.0103	0.00253						
					Toluene	1.33e-05	5.84e-05	1.43e-05						
					Volatile Organic Compoun..	0.0216	0.0945	0.0232						
					Reciprocating IC Engine	EQUI2	EU001	EU001	Reciprocating Engine #1A (Clark 1700 hp 2SLB)	1,1-Dichloroethane	0.000547	0.0024	0.0024	
										1,1,2-Trichloroethane	0.000738	0.00323	0.00323	
										1,1,2,2-Tetrachloroethane	0.000928	0.00407	0.00407	
										1,2-Dibromoethane (Ethyl..	0.00103	0.0045	0.0045	
										1,2-Dichloroethane	0.000591	0.00259	0.00259	
										1,2-Dichloropropane	0.000624	0.00273	0.00273	
1,3-Butadiene	0.0115	0.0503	0.0503											
1,3-Dichloropropene	0.000613	0.00269	0.00269											
2,2,4-trimethylpentane	0.0118	0.0519	0.0519											
Acetaldehyde	0.109	0.476	0.476											
Acrolein	0.109	0.477	0.477											
Benzene	0.0272	0.119	0.119											
Biphenyl	5.53e-05	0.000242	0.000242											
Carbon Dioxide Equivalent	1,639	7,180	7,180											
Carbon Monoxide	5.4	23.7	23.7											
Carbon tetrachloride	0.00085	0.00372	0.00372											
Chlorobenzene (Monochlo..	0.000622	0.00272	0.00272											
Chloroform	0.000659	0.00289	0.00289											
Dichloromethane (Methyl..	0.00206	0.00901	0.00901											
Ethylbenzene	0.00151	0.00662	0.00662											
Formaldehyde	0.773	3.38	3.38											
HAPs - Total	1.11	4.88	4.88											
Hexane	0.00623	0.0273	0.0273											
Methanol	0.0347	0.152	0.152											
Naphthalene	0.00135	0.00591	0.00591											
Nitrogen Oxides	44.38	194.38	194.38											
Particulate Matter	0.676	2.96	2.96											
Phenol	0.000589	0.00258	0.00258											
PM < 2.5 micron	0.676	2.96	2.96											
PM < 10 micron	0.676	2.96	2.96											
Polycyclic organic matter	0.00188	0.00822	0.00822											
Styrene	0.000767	0.00336	0.00336											
Sulfur Dioxide	0.00823	0.0361	0.0361											
Toluene	0.0135	0.0591	0.0591											
Vinyl chloride (chloroethe..	0.000346	0.00151	0.00151											
Volatile Organic Compoun..	1.68	7.36	7.36											
Reciprocating Engine #2A	EQUI3	EU002	EU002	Reciprocating Engine #2A	Xylenes, Total	0.00375	0.0164	0.0164						
					1,1-Dichloroethane	0.000547	0.0024	0.0024						

PTE by subject item

Agency Interest: None

Agency Interest ID: 598

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: All

Subject Item Category Description	Subject Item Description	Subject Item ID	Subject Item Designation	Subject Item Description	Pollutant	Potential (lbs/yr)	Unrestricted Potential (tons/yr)	Potential Limited (tons/yr)	Actual Emissions (tons/yr)					
Equipment	Reciprocating IC Engine	EQUI3	EU002	Reciprocating Engine #2A (Clark 1700 hp 2SLB)	1,1,2-Trichloroethane	0.000738	0.00323	0.00323						
					1,1,2,2-Tetrachloroethane	0.000928	0.00407	0.00407						
					1,2-Dibromoethane (Ethyl..	0.00103	0.0045	0.0045						
					1,2-Dichloroethane	0.000591	0.00259	0.00259						
					1,2-Dichloropropane	0.000624	0.00273	0.00273						
					1,3-Butadiene	0.0115	0.0503	0.0503						
					1,3-Dichloropropene	0.000613	0.00269	0.00269						
					2,2,4-trimethylpentane	0.0118	0.0519	0.0519						
					Acetaldehyde	0.109	0.476	0.476						
					Acrolein	0.109	0.477	0.477						
					Benzene	0.0272	0.119	0.119						
					Biphenyl	5.53e-05	0.000242	0.000242						
					Carbon Dioxide Equivalent	1,639	7,180	7,180						
					Carbon Monoxide	5.4	23.7	23.7						
					Carbon tetrachloride	0.00085	0.00372	0.00372						
					Chlorobenzene (Monochlo..	0.000622	0.00272	0.00272						
					Chloroform	0.000659	0.00289	0.00289						
					Dichloromethane (Methyl..	0.00206	0.00901	0.00901						
					Ethylbenzene	0.00151	0.00662	0.00662						
					Formaldehyde	0.773	3.38	3.38						
					HAPs - Total	1.11	4.88	4.88						
					Hexane	0.00623	0.0273	0.0273						
					Methanol	0.0347	0.152	0.152						
					Naphthalene	0.00135	0.00591	0.00591						
					Nitrogen Oxides	44.38	194.38	194.38						
					Particulate Matter	0.676	2.96	2.96						
					Phenol	0.000589	0.00258	0.00258						
					PM < 2.5 micron	0.676	2.96	2.96						
					PM < 10 micron	0.676	2.96	2.96						
					Polycyclic organic matter	0.00188	0.00822	0.00822						
					Styrene	0.000767	0.00336	0.00336						
					Sulfur Dioxide	0.00823	0.0361	0.0361						
					Toluene	0.0135	0.0591	0.0591						
					Vinyl chloride (chloroethe..	0.000346	0.00151	0.00151						
					Volatile Organic Compoun..	1.68	7.36	7.36						
					Xylenes, Total	0.00375	0.0164	0.0164						
					Equipment	Reciprocating IC Engine	EQUI4	EU003	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	1,1-Dichloroethane	0.000547	0.0024	0.0024	
										1,1,2-Trichloroethane	0.000738	0.00323	0.00323	
										1,1,2,2-Tetrachloroethane	0.000928	0.00407	0.00407	
										1,2-Dibromoethane (Ethyl..	0.00103	0.0045	0.0045	
										1,2-Dichloroethane	0.000591	0.00259	0.00259	
										1,2-Dichloropropane	0.000624	0.00273	0.00273	
										1,3-Butadiene	0.0115	0.0503	0.0503	
										1,3-Dichloropropene	0.000613	0.00269	0.00269	
2,2,4-trimethylpentane	0.0118	0.0519	0.0519											
Acetaldehyde	0.109	0.476	0.476											
Acrolein	0.109	0.477	0.477											
Benzene	0.0272	0.119	0.119											
Biphenyl	5.53e-05	0.000242	0.000242											
Carbon Dioxide Equivalent	1,639	7,180	7,180											
Carbon Monoxide	5.4	23.7	23.7											
Carbon tetrachloride	0.00085	0.00372	0.00372											
Chlorobenzene (Monochlo..	0.000622	0.00272	0.00272											
Chloroform	0.000659	0.00289	0.00289											
Dichloromethane (Methyl..	0.00206	0.00901	0.00901											
Ethylbenzene	0.00151	0.00662	0.00662											
Formaldehyde	0.773	3.38	3.38											
HAPs - Total	1.11	4.88	4.88											
Hexane	0.00623	0.0273	0.0273											
Methanol	0.0347	0.152	0.152											
Naphthalene	0.00135	0.00591	0.00591											
Nitrogen Oxides	44.38	194.38	194.38											
Particulate Matter	0.676	2.96	2.96											
Phenol	0.000589	0.00258	0.00258											

PTE by subject item

Agency Interest: None

Agency Interest ID: 598

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: All

Subject Item Category Description	Subject Item Type Description	Subject Item ID	Subject Item Designation	Subject Item Description	Pollutant	Potential (lbs/hr)	Unrestricted Potential (tons/yr)	Potential Limited (tons/yr)	Actual Emissions (tons/yr)			
Equipment	Reciprocating IC Engine	EQUI4	EU003	Reciprocating Engine #3A (Clark 1700 hp 2SLB)	PM < 2.5 micron	0.676	2.96	2.96				
					PM < 10 micron	0.676	2.96	2.96				
					Polycyclic organic matter	0.00188	0.00822	0.00822				
					Styrene	0.000767	0.00336	0.00336				
					Sulfur Dioxide	0.00823	0.0361	0.0361				
					Toluene	0.0135	0.0591	0.0591				
					Vinyl chloride (chloroethe..	0.000346	0.00151	0.00151				
					Volatile Organic Compoun..	1.68	7.36	7.36				
					Xylenes, Total	0.00375	0.0164	0.0164				
					EQUI5	EU004	Reciprocating Engine #4A (Clark 1700 hp 2SLB)	1,1-Dichloroethane	0.000547	0.0024	0.0024	
								1,1,2-Trichloroethane	0.000738	0.00323	0.00323	
								1,1,2,2-Tetrachloroethane	0.000928	0.00407	0.00407	
								1,2-Dibromoethane (Ethyl..	0.00103	0.0045	0.0045	
								1,2-Dichloroethane	0.000591	0.00259	0.00259	
								1,2-Dichloropropane	0.000624	0.00273	0.00273	
		1,3-Butadiene	0.0115	0.0503				0.0503				
		1,3-Dichloropropene	0.000613	0.00269				0.00269				
		2,2,4-trimethylpentane	0.0118	0.0519				0.0519				
		Acetaldehyde	0.109	0.476				0.476				
		Acrolein	0.109	0.477				0.477				
		Benzene	0.0272	0.119				0.119				
		Biphenyl	5.53e-05	0.000242				0.000242				
		Carbon Dioxide Equivalent	1,639	7,180				7,180				
		Carbon Monoxide	5.4	23.7				23.7				
		Carbon tetrachloride	0.00085	0.00372				0.00372				
		Chlorobenzene (Monochlo..	0.000622	0.00272				0.00272				
		Chloroform	0.000659	0.00289				0.00289				
		Dichloromethane (Methyl..	0.00206	0.00901	0.00901							
		Ethylbenzene	0.00151	0.00662	0.00662							
		Formaldehyde	0.773	3.38	3.38							
		HAPs - Total	1.11	4.88	4.88							
		Hexane	0.00623	0.0273	0.0273							
		Methanol	0.0347	0.152	0.152							
Naphthalene	0.00135	0.00591	0.00591									
Nitrogen Oxides	44.38	194.38	194.38									
Particulate Matter	0.676	2.96	2.96									
Phenol	0.000589	0.00258	0.00258									
PM < 2.5 micron	0.676	2.96	2.96									
PM < 10 micron	0.676	2.96	2.96									
Polycyclic organic matter	0.00188	0.00822	0.00822									
Styrene	0.000767	0.00336	0.00336									
Sulfur Dioxide	0.00823	0.0361	0.0361									
Toluene	0.0135	0.0591	0.0591									
Vinyl chloride (chloroethe..	0.000346	0.00151	0.00151									
Volatile Organic Compoun..	1.68	7.36	7.36									
Xylenes, Total	0.00375	0.0164	0.0164									
EQUI6	EU005	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	1,1-Dichloroethane	0.000547	0.0024	0.0024						
			1,1,2-Trichloroethane	0.000738	0.00323	0.00323						
			1,1,2,2-Tetrachloroethane	0.000928	0.00407	0.00407						
			1,2-Dibromoethane (Ethyl..	0.00103	0.0045	0.0045						
			1,2-Dichloroethane	0.000591	0.00259	0.00259						
			1,2-Dichloropropane	0.000624	0.00273	0.00273						
			1,3-Butadiene	0.0115	0.0503	0.0503						
			1,3-Dichloropropene	0.000613	0.00269	0.00269						
			2,2,4-trimethylpentane	0.0118	0.0519	0.0519						
			Acetaldehyde	0.109	0.476	0.476						
			Acrolein	0.109	0.477	0.477						
			Benzene	0.0272	0.119	0.119						
			Biphenyl	5.53e-05	0.000242	0.000242						
			Carbon Dioxide Equivalent	1,639	7,180	7,180						
			Carbon Monoxide	5.4	23.7	23.7						
			Carbon tetrachloride	0.00085	0.00372	0.00372						
			Chlorobenzene (Monochlo..	0.000622	0.00272	0.00272						
			Chloroform	0.000659	0.00289	0.00289						

PTE by subject item

Agency Interest: None

Agency Interest ID: 598

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: All

Subject Item Category Description	Subject Item Description	Subject Item ID	Subject Item Designation	Subject Item Description	Pollutant	Potential (lbs/yr)	Unrestricted Potential (tons/yr)	Potential Limited (tons/yr)	Actual Emissions (tons/yr)					
Equipment	Reciprocating IC Engine	EQUI6	EU005	Reciprocating Engine #5A (Clark 1700 hp 2SLB)	Dichloromethane (Methyl..	0.00206	0.00901	0.00901						
					Ethylbenzene	0.00151	0.00662	0.00662						
					Formaldehyde	0.773	3.38	3.38						
					HAPs - Total	1.11	4.88	4.88						
					Hexane	0.00623	0.0273	0.0273						
					Methanol	0.0347	0.152	0.152						
					Naphthalene	0.00135	0.00591	0.00591						
					Nitrogen Oxides	44.38	194.38	194.38						
					Particulate Matter	0.676	2.96	2.96						
					Phenol	0.000589	0.00258	0.00258						
					PM < 2.5 micron	0.676	2.96	2.96						
					PM < 10 micron	0.676	2.96	2.96						
					Polycyclic organic matter	0.00188	0.00822	0.00822						
					Styrene	0.000767	0.00336	0.00336						
					Sulfur Dioxide	0.00823	0.0361	0.0361						
					Toluene	0.0135	0.0591	0.0591						
					Vinyl chloride (chloroethe..	0.000346	0.00151	0.00151						
					Volatile Organic Compoun..	1.68	7.36	7.36						
					Xylenes, Total	0.00375	0.0164	0.0164						
					EQUI7			EU006	Reciprocating Engine-Emergency Generator (4SRB)	1,1-Dichloroethane	2.26e-05	9.9e-05	8.14e-06	
										1,1,2-Trichloroethane	3.06e-05	0.000134	1.1e-05	
										1,1,2,2-Tetrachloroethane	5.06e-05	0.000222	1.82e-05	
										1,2-Dibromoethane (Ethyl..	4.26e-05	0.000187	1.53e-05	
	1,2-Dichloroethane	2.26e-05	9.9e-05	8.14e-06										
	1,2-Dichloropropane	2.6e-05	0.000114	9.36e-06										
	1,3-Butadiene	0.00133	0.00581	0.000477										
	1,3-Dichloropropene	2.54e-05	0.000111	9.14e-06										
	Acetaldehyde	0.00558	0.0244	0.00201										
	Acrolein	0.00526	0.023	0.00189										
	Benzene	0.00316	0.0138	0.00114										
	Carbon Dioxide Equivalent	234	1,025.78	84										
	Carbon Monoxide	7.44	32.59	2.68										
	Carbon tetrachloride	3.54e-05	0.000155	1.27e-05										
	Chlorobenzene (Monochlo..	2.58e-05	0.000113	9.29e-06										
	Chloroform	2.74e-05	0.00012	9.86e-06										
	Dichloromethane (Methyl..	8.24e-05	0.000361	2.97e-05										
	Ethylbenzene	4.96e-05	0.000217	1.79e-05										
	Formaldehyde	0.041	0.18	0.0148										
	HAPs - Total	0.0649	0.284	0.0234										
	Methanol	0.00612	0.0268	0.0022										
	Naphthalene	0.000194	0.000851	6.99e-05										
	Nitrogen Oxides	4.42	19.36	1.59										
	Particulate Matter	0.0388	0.17	0.014										
	PM < 2.5 micron	0.0388	0.17	0.014										
	PM < 10 micron	0.0388	0.17	0.014										
	Polycyclic organic matter	0.000282	0.00124	0.000102										
	Styrene	2.38e-05	0.000104	8.57e-06										
Sulfur Dioxide	0.00118	0.00515	0.000423											
Toluene	0.00112	0.00489	0.000402											
Vinyl chloride (chloroethe..	1.44e-05	6.29e-05	5.17e-06											
Volatile Organic Compoun..	0.0592	0.259	0.0213											
Xylenes, Total	0.00039	0.00171	0.00014											

SI - SI relationships

Agency Interest: None







Agency Interest ID: 598

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: All

Subject Item Category Description	Subject Item Type Description	Subject Item ID	SI Designation and Description	Relationship	Related Subject Item ID	% Flow	Related Subject Item Type Description	Start Date (Related Subject Item)	End Date (Related Subject Item)	
Equipment	Process Heater	EQUI1	EU007 Water Jacket Heater	sends to	STRU7	100	Stack/Vent	6/8/1999	Null	
	Reciprocating IC Engine	EQUI2	EU001 Reciprocating Engine #1A (Clark 170..	sends to	STRU1	100	Stack/Vent	6/8/1999	Null	
		EQUI3	EU002 Reciprocating Engine #2A (Clark 170..	sends to	STRU2	100	Stack/Vent	6/8/1999	Null	
		EQUI4	EU003 Reciprocating Engine #3A (Clark 170..	sends to	STRU3	100	Stack/Vent	6/8/1999	Null	
		EQUI5	EU004 Reciprocating Engine #4A (Clark 170..	sends to	STRU4	100	Stack/Vent	6/8/1999	Null	
		EQUI6	EU005 Reciprocating Engine #5A (Clark 170..	sends to	STRU5	100	Stack/Vent	6/8/1999	Null	
		EQUI7	EU006 Reciprocating Engine-Emergency Ge..	sends to	STRU6	100	Stack/Vent	6/8/1999	Null	

Emission Units 1

Agency Interest: None


Agency Interest ID: 598

Activity: None (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: Process Heater

Subject Item Type	Subject Item ID	SI Designation and Description	Manufacturer	Model	Max Design Capacity	Max Design Capacity Units (numerator)	Max Design Capacity Units (denominator)	Material	Construction Start Date	Operation Start Date	Modification Date	
Process Heater	EQUI1	EU007 Water Jacket Heater	Peerless	211-22W	4	million British thermal units	hours	Heat	6/9/1982	6/9/1982	Null	

Emission Units 2

Agency Interest: None
 Agency Interest ID: 598
 Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment
 SI Type: Reciprocating IC Engine

Subject Item Type Description	Subject Item ID	SI Designation and Description	Manufacturer	Model	Max Design Capacity	Max Design Capacity Units (numerator)	Max Design Capacity Units (denominator)	Material	Construction Start Date	Operation Start Date	Modification Date	
Reciprocating IC Engine	EQUI2	EU001 Reciprocating Engine #1A (Clark 17..	Clark	TLA-5	1700	horsepower	hours	Energy	10/18/1960	10/18/1960	Null	■
	EQUI3	EU002 Reciprocating Engine #2A (Clark 17..	Clark	TLA-5	1700	horsepower	hours	Energy	10/17/1960	10/17/1960	Null	■
	EQUI4	EU003 Reciprocating Engine #3A (Clark 17..	Clark	TLA-5	1700	horsepower	hours	Energy	10/16/1960	10/16/1960	Null	■
	EQUI5	EU004 Reciprocating Engine #4A (Clark 17..	Clark	TLA-5	1700	horsepower	hours	Energy	11/1/1967	11/1/1967	Null	■
	EQUI6	EU005 Reciprocating Engine #5A (Clark 17..	Clark	TLA-5	1700	horsepower	hours	Energy	10/27/1967	10/27/1967	Null	■
	EQUI7	EU006 Reciprocating Engine-Emergency G..	ONAN	50KB-6R8/13E	120	horsepower	hours	Energy	12/31/1960	12/31/1960	Null	■

Emission Units 2 (continued)

Agency Interest: None







Agency Interest ID: 598

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: Reciprocating IC Engine

Subject Item Type Description	Subject Item ID	SI Designation and Description	Firing Method	Engine Use	Engine Displacement	Engine Displacement Units	Subject to CSAPR?	Electric Generating Capacity (MW)	
Reciprocating IC Engine	EQUI2	EU001 Reciprocating Engine #1A (Clark 17..	SI-2SLB	Unlimited use	70.67	liters per cylinder	Null	Null	
	EQUI3	EU002 Reciprocating Engine #2A (Clark 17..	SI-2SLB	Unlimited use	70.67	liters per cylinder	Null	Null	
	EQUI4	EU003 Reciprocating Engine #3A (Clark 17..	SI-2SLB	Unlimited use	70.67	liters per cylinder	Null	Null	
	EQUI5	EU004 Reciprocating Engine #4A (Clark 17..	SI-2SLB	Unlimited use	70.67	liters per cylinder	Null	Null	
	EQUI6	EU005 Reciprocating Engine #5A (Clark 17..	SI-2SLB	Unlimited use	70.67	liters per cylinder	Null	Null	
	EQUI7	EU006 Reciprocating Engine-Emergency G..	SI-4SLB	Emergency/blackstart	0.82	liters per cylinder	Null	Null	

Buildings, General

Agency Interest: None




Agency Interest ID: 598

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Structure

SI Type: Building

Subject Item Type	Subject Item ID	SI Designation and Description	Height	Units (height)	Length	Units (length)	Width	Units (width)	
Building	STRU8	Null Compressor Building/Office	32	feet	244	feet	40	feet	
	STRU9	Null Garage/Shop	20	feet	54	feet	34	feet	
	STRU10	Null Utility/Storage	20	feet	80	feet	40	feet	

Stack/Vent, General

Agency Interest: None

Agency Interest ID: 598

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Structure

SI Type: Stack/Vent

Subject Item Type Description	Subject Item ID	SI Designation and Description	Stack Height (feet)	Stack Diameter (feet)	Stack Length (feet)	Stack Width (feet)	Stack Flow Rate (cubic ft/min)	Discharge Temperature (°F)	Flow Rate/Temp Information Source	Discharge Direction	
Stack/Vent	STRU1	SV001 Null	30	1.6	Null	Null	18905	629	Estimate	Upwards with no cap on stack/vent	■
	STRU2	SV002 Null	30	1.6	Null	Null	19300	586	Test data	Upwards with no cap on stack/vent	■
	STRU3	SV003 Null	30	1.6	Null	Null	18905	629	Estimate	Upwards with no cap on stack/vent	■
	STRU4	SV004 Null	30	1.9	Null	Null	18905	629	Estimate	Upwards with no cap on stack/vent	■
	STRU5	SV005 Null	30	1.9	Null	Null	19036	576	Test data	Upwards with no cap on stack/vent	■
	STRU6	SV006 Null	11	0.3	Null	Null	1034	629	Estimate	Upwards with no cap on stack/vent	■
	STRU7	SV007 Null	30	2.3	Null	Null	1313	250	Estimate	Upwards with no cap on stack/vent	■

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (06900015)	1240	Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in Appendix A (Insignificant Activities and Applicable Requirements). Modeling parameters in Appendix B are included for reference only as described elsewhere in this permit.	Minn. R. 7007.0800, subp. 2
TFAC 1 (06900015)	1260	PERMIT SHIELD: Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements. This permit shall not alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance.	Minn. R. 7007.1800, (A)(2)
TFAC 1 (06900015)	1300	These requirements apply if a reasonable possibility (RP) as defined in 40 CFR Section 52.21(r)(6)(vi) exists that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test (either by itself or as part of the hybrid test at Section 52.21(a)(2)(iv)(f)) and found to not be part of a major modification, may result in a significant emissions increase (SEI). If the ATPA test is not used for the project, or if there is no RP that the proposed project could result in a SEI, these requirements do not apply to that project. The Permittee is only subject to the Preconstruction Documentation requirement for a project where a RP occurs only within the meaning of Section 52.21(r)(6)(vi)(b). Even though a particular modification is not subject to New Source Review (NSR), or where there isn't a RP that a proposed project could result in a SEI, a permit amendment, recordkeeping, or notification may still be required by Minn. R. 7007.1150 - 7007.1500.	Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (06900015)	1310	Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following: 1. Project description 2. Identification of any emission unit whose emissions of an NSR pollutant could be affected 3. Pre-change potential emissions of any affected existing emission unit, and the projected post-change potential emissions of any affected existing or new emission unit. 4. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the emission unit could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. The Permittee shall maintain records of this documentation.	Minn. R. 7007.0800, subs. 4-5, Minn. R. 7007.1200, subp. 4, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (06900015)	1320	The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions in the hybrid test. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if the hybrid test was used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.	Minn. R. 7007.0800, subs. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (06900015)	1330	The Permittee must submit a report to the Agency if the annual summed (actual, plus potential if used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain: a. The name and ID number of the Facility, and the name and telephone number of the Facility contact person. b. The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.	Minn. R. 7007.0800, subs. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (06900015)	1370	The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0090. Compliance shall be demonstrated upon written request by the MPCA.	Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
TFAC 1 (06900015)	1390	Modeled Parameters for PM10: The parameters used in PM10 modeling for permit number 06900015-101 are listed in Appendix B of this permit. The parameters describe the operation of the facility at maximum permitted capacity. The purpose of listing the parameters in the appendix is to provide a benchmark for future changes.	Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
TFAC 1 (06900015)	1400	Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
TFAC 1 (06900015)	1410	Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated.	Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 2
TFAC 1 (06900015)	1420	Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 16(J)
TFAC 1 (06900015)	1430	Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
TFAC 1 (06900015)	1440	Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
TFAC 1 (06900015)	1450	Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010-7030.0080
TFAC 1 (06900015)	1460	Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
TFAC 1 (06900015)	1470	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
TFAC 1 (06900015)	1480	Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in this permit.	Minn. R. ch. 7017
TFAC 1 (06900015)	1490	Performance Test Notifications and Submittals: Performance Test Notification and Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test The Notification, Test Plan, and Test Report must be submitted in a format specified by the commissioner.	Minn. R. 7017.2017, Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (06900015)	1500	Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.	Minn. R. 7017.2025, subp. 3
TFAC 1 (06900015)	1510	Monitoring Equipment Calibration - The Permittee shall either: 1. Calibrate or replace required monitoring equipment every 12 months; or 2. Calibrate at the frequency stated in the manufacturer's specifications. For each monitor, the Permittee shall maintain a record of all calibrations, including the date conducted, and any corrective action that resulted. The Permittee shall include the calibration frequencies, procedures, and manufacturer's specifications (if applicable) in the Operations and Maintenance Plan. Any requirements applying to continuous emission monitors are listed separately in this permit.	Minn. R. 7007.0800, subp. 4(D)
TFAC 1 (06900015)	1620	Operation of Monitoring Equipment: Unless noted elsewhere in this permit, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
TFAC 1 (06900015)	1630	Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
TFAC 1 (06900015)	1640	Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
TFAC 1 (06900015)	1650	If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
TFAC 1 (06900015)	1660	Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
TFAC 1 (06900015)	1670	Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
TFAC 1 (06900015)	1680	Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (06900015)	1690	Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
TFAC 1 (06900015)	1710	The Permittee shall submit a semiannual deviations report : Due semiannually, by the 30th of January and July. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. Submit this on form DRF-2 (Deviation Reporting Form). If no deviations have occurred, submit the signed report certifying that there were no deviations.	Minn. R. 7007.0800, subp. 6(A)(2)
TFAC 1 (06900015)	1720	Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed. Upon adoption of a new or amended federal applicable requirement, and if there are 3 or more years remaining in the permit term, the Permittee shall file an application for an amendment within nine months of promulgation of the applicable requirement, pursuant to Minn. R. 7007.0400, subp. 3.	Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150 - 7007.1500
TFAC 1 (06900015)	1740	Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H). Performance testing deadlines from the General Provisions of 40 CFR pt. 60 and pt. 63 are examples of deadlines for which the MPCA does not have authority to grant extensions and therefore do not meet the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
TFAC 1 (06900015)	1741	The Permittee shall submit a compliance certification : Due annually, by the 31st of January (for the previous calendar year). Submit this on form CR-04 (Annual Compliance Certification Report). This report covers all deviations experienced during the calendar year. If no deviations have occurred, submit the signed report certifying that there were no deviations.	Minn. R. 7007.0800, subp. 6(C)
TFAC 1 (06900015)	1750	The Permittee shall submit an application for permit reissuance : Due 180 calendar days before Permit Expiration Date.	Minn. R. 7007.0400, subp. 2
TFAC 1 (06900015)	1760	Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. Submit in a format specified by the Commissioner.	Minn. R. 7019.3000-7019.3100
TFAC 1 (06900015)	1890	Emission Fees: due 30 days after receipt of an MPCA bill.	Minn. R. 7002.0005-7002.0095
EQUI 1 (EU007)	2	Hours <= 2150 hours per year 12-month rolling sum for EQUI 1 when EQUI 2, EQUI 3, EQUI 4, EQUI 5, EQUI 6, and EQUI 7 are also in operation, to be calculated by the last day of each month for the previous 12-month period as described later in this permit.	40 CFR pt. 50, Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
EQUI 1 (EU007)	4	Daily Recordkeeping. On each day that the water jacket heater is operated, the Permittee shall record and maintain the following information: 1) The date that EQUI 1 is operating; 2) The start time for EQUI 1 if EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 is operating; 3) The start time for EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 if EQUI 1 is operating; 4) The stop time for EQUI 1 if EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 is operating; and 5) The stop time for EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 if EQUI 1 is operating.	40 CFR pt. 50, Minn. R. 7007.0100, 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9

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EQUI 1 (EU007)	5	Monthly Recordkeeping. By the last day of the month, the Permittee shall calculate and record the following: 1) The total hours of operation for EQUI 1 while EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 is operating for the previous calendar month using the daily records; and 2) The 12-month rolling sum hours of operation for the previous 12-month period by summing the monthly hours of operation for the previous 12 months.	Minn. R. 7007.0800, subs. 4-5
EQUI 1 (EU007)	7	Particulate Matter <= 0.40 pounds per million Btu heat input. The potential to emit from the unit is 0.0075 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.0515, subp. 1
EQUI 1 (EU007)	8	Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0515, subp. 2
EQUI 1 (EU007)	11	The affected source of 40 CFR pt. 63, subp. DDDDD is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory as defined in 40 CFR Section 63.7575. These units are part of the subcategory "units designed to burn gas 1 fuels".	40 CFR 63.7490, Minn. R. 7011.7050
EQUI 1 (EU007)	12	The Permittee must meet each work practice standard in Table 3 to 40 CFR pt. 63, Subp. DDDDD that apply to this unit.	40 CFR 63.7500(a)(1), Table 3, Minn. R. 7011.7050
EQUI 1 (EU007)	13	The Permittee must demonstrate continuous compliance with each work practice standard in Table 3 to 40 CFR pt. 63, Subp. DDDDD that applies to this unit.	40 CFR 63.7540(a)(1), Minn. R. 7011.7050
EQUI 1 (EU007)	14	The Permittee must conduct each 5-year tune-up specified in 40 CFR Section 63.7540(a)(10) must be no more than 61 months after the previous tune-up.	40 CFR 63.7515(d), Minn. R. 7011.7050
EQUI 1 (EU007)	15	At all times, the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	40 CFR 63.7500(a)(3), Minn. R. 7011.7050
EQUI 1 (EU007)	16	The standards under 40 CFR Section 63.7500 apply at all times the affected unit is operating, except during periods of startup and shutdown during which time the Permittee must comply only with Table 3 to Subpart DDDDD of Part 63.	40 CFR 63.7500(f), Minn. R. 7011.7050
EQUI 1 (EU007)	17	The Permittee must meet the requirements in paragraphs (a)(1) through (3) of 40 CFR Section 63.7500, except as provided in paragraphs (b), through (e) of 40 CFR Section 63.7500. The Permittee must meet these requirements at all times the affected unit is operating except for the periods noted in 40 CFR Section 63.7500(f).	40 CFR 63.7505(a), Minn. R. 7011.7050
EQUI 1 (EU007)	18	The Permittee must conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR Section 63.7540(a)(10) to demonstrate continuous compliance, including: (i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment; (ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; (iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the Permittee may delay the inspection until the next scheduled unit shutdown); (iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which this unit is subject; (v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and (vi) Maintain on-site and submit, if requested by the Commissioner or Administrator, an annual report containing: - The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater; - A description of any corrective actions taken as a part of the tune-up; and - The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.	40 CFR 63.7540(a)(10), 40 CFR 63.7540(a)(12), Minn. R. 7011.7050
EQUI 1 (EU007)	19	If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.	40 CFR 63.7540(a)(13), Minn. R. 7011.7050

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EQUI 1 (EU007)	24	The Permittee must submit each report in Table 9 of 40 CFR pt. 63, subp. DDDDD that applies.	40 CFR 63.7550(a), Minn. R. 7011.7050
EQUI 1 (EU007)	25	<p>Compliance Report:</p> <p>The Permittee shall submit a 5-year compliance report starting 1/31/2016. The first compliance report must cover the period beginning on 1/31/2016 and ending on July 31 or January 31, whichever date is the first date that occurs at least 5 years after 1/31/2016. The first 5-year compliance report must be postmarked or submitted no later than January 31.</p> <p>Each subsequent compliance report must cover the applicable 5-year period from January 1 to December 31. Each subsequent compliance reports must be postmarked or submitted no later than January 31.</p>	40 CFR 63.7550(b), 40 CFR pt. 63, subp. DDDDD(Table 9), Minn. R. 7011.7050
EQUI 1 (EU007)	26	<p>A Compliance Report must contain the following:</p> <ol style="list-style-type: none"> 1. Information required in 40 CFR Section 63.7550(c)(1) through (5); 2. If there were no deviations from the requirements for work practice standards in Table 3 of 40 CFR pt. 63, subp. DDDDD that apply, a statement that there were no deviations from the work practice standards during the reporting period; and 3. If there was a deviation from a work practice standard during the reporting period, the report must contain the information in 40 CFR Section 63.7550(d). 	40 CFR 63.7550(b), 40 CFR 63.7550(a), Table 9, Minn. R. 7011.7050
EQUI 1 (EU007)	27	<p>A compliance report must contain the following information:</p> <ol style="list-style-type: none"> 1. Company and Facility name and address. 2. Process unit information, emissions limitations, and operating parameter limitations. 3. Date of report and beginning and ending dates of the reporting period. 4. The total operating time during the reporting period. 5. Include the date of the most recent tune-up for each unit subject to only the requirement to conduct a 5-year tune-up. Include the date of the most recent burner inspection if it was not done on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown. 	40 CFR 63.7550(c), Minn. R. 7011.7050
EQUI 1 (EU007)	28	The Permittee must submit all reports required by Table 9 of 40 CFR pt. 63, subp. DDDDD electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) The Permittee must use the appropriate electronic report in CEDRI for 40 CFR pt. 63, subp. DDDDD. Instead of using the electronic report in CEDRI for 40 CFR pt. 63, subp. DDDDD, the Permittee may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to 40 CFR pt. 63, subp. DDDDD is not available in CEDRI at the time that the report is due, the Permittee must submit the report to the Administrator at the appropriate address listed in 40 CFR Section 63.13. The Permittee must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI.	40 CFR 63.7550(h)(3), Minn. R. 7011.7050
EQUI 1 (EU007)	29	<p>The Permittee must keep records according to 40 CFR Section 63.7555(a)(1), including:</p> <ol style="list-style-type: none"> 1. A copy of each notification and report that the Permittee submitted to comply with 40 CFR pt. 63, subp. DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or compliance report that the Permittee submitted, according to the requirements in 40 CFR Section 63.10(b)(2)(xiv). 2. Records of performance tests, fuel analyses, or other compliance demonstrations and perform evaluations as required in 40 CFR Section 63.10(b)(2)(viii). 	40 CFR 63.7555(a), Minn. R. 7011.7050
EQUI 1 (EU007)	30	The Permittee must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.	40 CFR 63.7555(i), Minn. R. 7011.7050
EQUI 1 (EU007)	31	The Permittee must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.	40 CFR 63.7555(j), Minn. R. 7011.7050
EQUI 1 (EU007)	32	The Permittee must keep records in a form suitable and readily available for expeditious review.	40 CFR 63.10(b)(1), 40 CFR 63.7560(a), Minn. R. 7011.7050, Minn. R. 7019.0100
EQUI 1 (EU007)	33	The Permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.	40 CFR 63.10(b)(1), 40 CFR 63.7560(b), Minn. R. 7011.7050, Minn. R. 7019.0100

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EQUI 1 (EU007)	34	The Permittee must keep each record on site, or they must be accessible from onsite (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years.	40 CFR 63.10(b)(1), 40 CFR 63.7560(c), Minn. R. 7011.7050, Minn. R. 7019.0100
EQUI 1 (EU007)	35	The Permittee shall comply with the applicable parts of the General Provisions in 40 CFR Sections 63.1 through 63.15 as indicated in Table 10 of 40 CFR pt. 63, subp. DDDDD.	40 CFR 63.7565, Minn. R. 7011.7050
EQUI 2 (EU001)	1	Opacity <= 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
EQUI 2 (EU001)	5	Sulfur Dioxide <= 0.50 pounds per million Btu heat input. The potential to emit from the unit is 0.00059 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(A)
EQUI 2 (EU001)	7	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. This limit is effective on January 31, 2018. The potential to emit from the unit is 0.00059 lb SO2 per MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(B)
EQUI 2 (EU001)	3520	Fuel type: Natural gas only by design.	Minn. R. 7005.0100, subp. 35a
EQUI 2 (EU001)	3535	Temporary Reciprocating Internal Combustion Engines (TRICE): The Permittee may operate a pipeline natural gas-fired two-stroke lean burn TRICE at the facility in place of EQUI 2 for up to 12 consecutive months. TRICE shall: 1. meet requirements of 40 CFR part 63, subp. ZZZZ when and if applicable; 2. meet all applicable requirements in this subject item; 3. exhaust through a stack with a height no less, a diameter no greater, and an exhaust temperature no less than the stack for the RICE it replaces; 4. not operate at the same time as the engine it replaces, except for up to eight hours during startup and shutdown transitions; 5. have potential emission rates (in lb/hr) for all pollutants equal to or less than permit emission limits and potential emission rates of the engine it replaces. For each TRICE record start & stop dates, manufacturer, model & serial numbers, and the lb/hr potential emission rates for all pollutants.	Minn. R. 7007.0800, subp. 2
EQUI 2 (EU001)	19510	At the time of permit issuance, EQUI 2 is considered an existing affected source under 40 CFR pt. 63, subp. ZZZZ as defined at 40 CFR Section 63.6590(a)(1)(i). However, these units meet the criteria in 40 CFR Section 63.6590(b)(3), so no limits, recordkeeping, or notifications from 40 CFR pt. 63, subp. ZZZZ apply to these units.	40 CFR 63.6590(a)(1)(i) and (b)(3), Minn. R. 7011.8150
EQUI 3 (EU002)	1	Opacity <= 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
EQUI 3 (EU002)	5	Sulfur Dioxide <= 0.50 pounds per million Btu heat input. The potential to emit from the unit is 0.00059 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(A)
EQUI 3 (EU002)	7	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. This limit is effective on January 31, 2018. The potential to emit from the unit is 0.00059 lb SO2 per MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(B)
EQUI 3 (EU002)	3520	Fuel type: Natural gas only by design.	Minn. R. 7005.0100, subp. 35a
EQUI 3 (EU002)	3535	Temporary Reciprocating Internal Combustion Engines (TRICE): The Permittee may operate a pipeline natural gas-fired two-stroke lean burn TRICE at the facility in place of EQUI 3 for up to 12 consecutive months. TRICE shall: 1. meet requirements of 40 CFR part 63, subp. ZZZZ when and if applicable; 2. meet all applicable requirements in this subject item; 3. exhaust through a stack with a height no less, a diameter no greater, and an exhaust temperature no less than the stack for the RICE it replaces; 4. not operate at the same time as the engine it replaces, except for up to eight hours during startup and shutdown transitions; 5. have potential emission rates (in lb/hr) for all pollutants equal to or less than permit emission limits and potential emission rates of the engine it replaces. For each TRICE record start & stop dates, manufacturer, model & serial numbers, and the lb/hr potential emission rates for all pollutants.	Minn. R. 7007.0800, subp. 2
EQUI 3 (EU002)	19510	At the time of permit issuance, EQUI 3 is considered an existing affected source under 40 CFR pt. 63, subp. ZZZZ as defined at 40 CFR Section 63.6590(a)(1)(i). However, these units meet the criteria in 40 CFR Section 63.6590(b)(3), so no limits, recordkeeping, or notifications from 40 CFR pt. 63, subp. ZZZZ apply to these units.	40 CFR 63.6590(a)(1)(i) and (b)(3), Minn. R. 7011.8150

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EQUI 4 (EU003)	1	Opacity <= 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
EQUI 4 (EU003)	5	Sulfur Dioxide <= 0.50 pounds per million Btu heat input. The potential to emit from the unit is 0.00059 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(A)
EQUI 4 (EU003)	7	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. This limit is effective on January 31, 2018. The potential to emit from the unit is 0.00059 lb SO2 per MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(B)
EQUI 4 (EU003)	3520	Fuel type: Natural gas only by design.	Minn. R. 7005.0100, subp. 35a
EQUI 4 (EU003)	3535	Temporary Reciprocating Internal Combustion Engines (TRICE): The Permittee may operate a pipeline natural gas-fired two-stroke lean burn TRICE at the facility in place of EQUI 4 for up to 12 consecutive months. TRICE shall: 1. meet requirements of 40 CFR part 63, subp. ZZZZ when and if applicable; 2. meet all applicable requirements in this subject item; 3. exhaust through a stack with a height no less, a diameter no greater, and an exhaust temperature no less than the stack for the RICE it replaces; 4. not operate at the same time as the engine it replaces, except for up to eight hours during startup and shutdown transitions; 5. have potential emission rates (in lb/hr) for all pollutants equal to or less than permit emission limits and potential emission rates of the engine it replaces. For each TRICE record start & stop dates, manufacturer, model & serial numbers, and the lb/hr potential emission rates for all pollutants.	Minn. R. 7007.0800, subp. 2
EQUI 4 (EU003)	19510	At the time of permit issuance, EQUI 4 is considered an existing affected source under 40 CFR pt. 63, subp. ZZZZ as defined at 40 CFR Section 63.6590(a)(1)(i). However, these units meet the criteria in 40 CFR Section 63.6590(b)(3), so no limits, recordkeeping, or notifications from 40 CFR pt, 63, subp. ZZZZ apply to these units.	40 CFR 63.6590(a)(1)(i) and (b)(3), Minn. R. 7011.8150
EQUI 5 (EU004)	1	Opacity <= 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
EQUI 5 (EU004)	5	Sulfur Dioxide <= 0.50 pounds per million Btu heat input. The potential to emit from the unit is 0.00059 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(A)
EQUI 5 (EU004)	7	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. This limit is effective on January 31, 2018. The potential to emit from the unit is 0.00059 lb SO2 per MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(B)
EQUI 5 (EU004)	3520	Fuel type: Natural gas only by design.	Minn. R. 7005.0100, subp. 35a
EQUI 5 (EU004)	3535	Temporary Reciprocating Internal Combustion Engines (TRICE): The Permittee may operate a pipeline natural gas-fired two-stroke lean burn TRICE at the facility in place of EQUI 5 for up to 12 consecutive months. TRICE shall: 1. meet requirements of 40 CFR part 63, subp. ZZZZ when and if applicable; 2. meet all applicable requirements in this subject item; 3. exhaust through a stack with a height no less, a diameter no greater, and an exhaust temperature no less than the stack for the RICE it replaces; 4. not operate at the same time as the engine it replaces, except for up to eight hours during startup and shutdown transitions; 5. have potential emission rates (in lb/hr) for all pollutants equal to or less than permit emission limits and potential emission rates of the engine it replaces. For each TRICE record start & stop dates, manufacturer, model & serial numbers, and the lb/hr potential emission rates for all pollutants.	Minn. R. 7007.0800, subp. 2
EQUI 5 (EU004)	19510	At the time of permit issuance, EQUI 5 is considered an existing affected source under 40 CFR pt. 63, subp. ZZZZ as defined at 40 CFR Section 63.6590(a)(1)(i). However, these units meet the criteria in 40 CFR Section 63.6590(b)(3), so no limits, recordkeeping, or notifications from 40 CFR pt, 63, subp. ZZZZ apply to these units.	40 CFR 63.6590(a)(1)(i) and (b)(3), Minn. R. 7011.8150
EQUI 6 (EU005)	1	Opacity <= 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
EQUI 6 (EU005)	5	Sulfur Dioxide <= 0.50 pounds per million Btu heat input. The potential to emit from the unit is 0.00059 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(A)

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EQUI 6 (EU005)	7	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. This limit is effective on January 31, 2018. The potential to emit from the unit is 0.00059 lb SO ₂ per MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(B)
EQUI 6 (EU005)	3520	Fuel type: Natural gas only by design.	Minn. R. 7005.0100, subp. 35a
EQUI 6 (EU005)	3535	Temporary Reciprocating Internal Combustion Engines (TRICE): The Permittee may operate a pipeline natural gas-fired two-stroke lean burn TRICE at the facility in place of EQUI 6 for up to 12 consecutive months. TRICE shall: 1. meet requirements of 40 CFR part 63, subp. ZZZZ when and if applicable; 2. meet all applicable requirements in this subject item; 3. exhaust through a stack with a height no less, a diameter no greater, and an exhaust temperature no less than the stack for the RICE it replaces; 4. not operate at the same time as the engine it replaces, except for up to eight hours during startup and shutdown transitions; 5. have potential emission rates (in lb/hr) for all pollutants equal to or less than permit emission limits and potential emission rates of the engine it replaces. For each TRICE record start & stop dates, manufacturer, model & serial numbers, and the lb/hr potential emission rates for all pollutants.	Minn. R. 7007.0800, subp. 2
EQUI 6 (EU005)	19510	At the time of permit issuance, EQUI 6 is considered an existing affected source under 40 CFR pt. 63, subp. ZZZZ as defined at 40 CFR Section 63.6590(a)(1)(i). However, these units meet the criteria in 40 CFR Section 63.6590(b)(3), so no limits, recordkeeping, or notifications from 40 CFR pt. 63, subp. ZZZZ apply to these units.	40 CFR 63.6590(a)(1)(i) and (b)(3), Minn. R. 7011.8150
EQUI 7 (EU006)	2	Opacity <= 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
EQUI 7 (EU006)	4	Sulfur Dioxide <= 0.50 pounds per million Btu heat input. The potential to emit from the unit is 0.00059 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(A)
EQUI 7 (EU006)	5	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. This limit is effective on January 31, 2018. The potential to emit from the unit is 0.00059 lb SO ₂ per MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(B)
EQUI 7 (EU006)	6	Hours <= 720 hours per year 12-month rolling sum for EQUI 7 when EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 are also in operation, to be calculated by the last day of each month for the previous 12-month period as described later in this permit.	40 CFR 50, Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
EQUI 7 (EU006)	7	Fuel type: Natural gas only by design.	Minn. R. 7005.0100, subp. 35a
EQUI 7 (EU006)	8	Daily Recordkeeping. On each day that the emergency generator is operated, the Permittee shall record and maintain the following information: 1) The date; 2) The start time for EQUI 7 if EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 is operating; 3) The start time for EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 if EQUI 7 is operating; 4) The stop time for EQUI 7 if EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 is operating; 5) The stop time for EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 if EQUI 7 is operating.	40 CFR 50, Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subps. 4-5, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
EQUI 7 (EU006)	9	Monthly Recordkeeping. By the last day of the month, the Permittee shall calculate and record the following: 1) The total hours of operation for EQUI 7 while EQUI 2, EQUI 3, EQUI 4, EQUI 5, or EQUI 6 is operating, for the previous calendar month using the daily records; and 2) The 12-month rolling sum hours of operation for the previous 12-month period by summing the monthly hours of operation for the previous 12 months.	Minn. R. 7007.0800, subps. 4-5
EQUI 7 (EU006)	10	Change oil and filter every 500 hours of operation or annually, whichever comes first. The Permittee has the option of utilizing an oil analysis program in order to extend the oil change requirement as described below.	40 CFR 63.6603(a), 40 CFR 63.6640, 40 CFR pt. 63, subp. ZZZZ(Table 2c), Minn. R. 7011.8150
EQUI 7 (EU006)	11	Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.	40 CFR 63.6603(a), 40 CFR 63.6640, 40 CFR pt. 63, subp. ZZZZ(Table 2c), Minn. R. 7011.8150

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EQUI 7 (EU006)	12	Inspect all hoses and belts every 500 hours of operation, or annually, whichever comes first, and replace as necessary.	40 CFR 63.6603(a), 40 CFR 63.6640, 40 CFR pt. 63, subp. ZZZZ(Table 2c), Minn. R. 7011.8150
EQUI 7 (EU006)	13	The Permittee shall be in compliance with the operating limitations in 40 CFR subp. ZZZZ that apply at all times.	40 CFR 63.6605(a), Minn. R. 7011.8150
EQUI 7 (EU006)	14	At all times the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation 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, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	40 CFR 63.6605(b), Minn. R. 7011.8150
EQUI 7 (EU006)	15	The Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.	40 CFR 63.6625(e), Minn. R. 7011.8150
EQUI 7 (EU006)	16	The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply.	40 CFR 63.6625(h), Minn. R. 7011.8150
EQUI 7 (EU006)	17	The Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement. The oil analysis shall be performed at the same frequency specified for changing the oil. The analysis program shall at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the Permittee is not required to change the oil. If any of the limits are exceeded, the engine owner or operator shall change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the Permittee shall change the oil within 2 days or before commencing operation, whichever is later. The Permittee shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program shall be part of the maintenance plan for the engine.	40 CFR 63.6625(j), Minn. R. 7011.8150
EQUI 7 (EU006)	18	The Permittee shall operate and maintain the stationary RICE according to the manufacturer's emission related operation and maintenance instructions; or the Permittee shall develop and follow a maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.	40 CFR 63.6640(a), 40 CFR pt. 63, subp. ZZZZ(Table 6), Minn. R. 7011.8150
EQUI 7 (EU006)	19	The Permittee shall comply with the General Provisions in 40 CFR Section 63.1 through 63.15, as applicable.	40 CFR 63.1-63.15, 40 CFR 63.6665, 40 CFR pt. 63, subp. ZZZZ(Table 8), Minn. R. 7011.8150
EQUI 7 (EU006)	20	The Permittee shall install a non-resettable hour meter.	40 CFR 63.6625(f), Minn. R. 7011.8150
EQUI 7 (EU006)	21	The Permittee shall operate the emergency stationary RICE according to the requirements in paragraphs 40 CFR Section 63.6640 (f)(1) through (4). Any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR Section 63.6640(f)(1) through (4), is prohibited. If the engine is not operated according to the requirements in 40 CFR Section 63.6640(f)(1) through (4), the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.	40 CFR 63.6640(f), Minn. R. 7011.8150
EQUI 7 (EU006)	22	There is no time limit on the use of emergency stationary RICE in emergency situations.	40 CFR 63.6640(f)(1), Minn. R. 7011.8150
EQUI 7 (EU006)	23	The Permittee may operate the emergency stationary RICE for any combination of the purposes specified in 40 CFR Section 63.6640(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR Section 63.6640(f)(3) counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).	40 CFR 63.6640(f)(2), Minn. R. 7011.8150

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EQUI 7 (EU006)	24	The Permittee may operate the emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.	40 CFR 63.6640(f)(2)(i), Minn. R. 7011.8150
EQUI 7 (EU006)	25	The Permittee may operate the emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing and emergency demand response provided in 40 CFR Section 63.6640(f)(2). The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.	40 CFR 63.6640(f)(3), Minn. R. 7011.8150
EQUI 7 (EU006)	26	The Permittee shall demonstrate continuous compliance with each emission limitation and operating limitation in Table 2c of 40 CFR pt. 63, subp. ZZZZ that apply according to methods specified in Table 6 of 40 CFR pt. 63, subp. ZZZZ.	40 CFR 63.6640(a), Minn. R. 7011.8150
EQUI 7 (EU006)	27	The Permittee shall keep records required in Table 6 of 40 CFR pt. 63, subp. ZZZZ, to show continuous compliance with each emission or operating limitation that applies.	40 CFR 63.6655(d), Minn. R. 7011.8150
EQUI 7 (EU006)	28	The Permittee shall keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the Permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to the maintenance plan.	40 CFR 63.6655(e), Minn. R. 7011.8150
EQUI 7 (EU006)	29	The Permittee shall keep records of the hours of operation of the engine that are recorded through the non-resettable hour meter. The Permittee shall document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in 40 CFR Section 63.6640(f)(2)(ii) or (iii), the Permittee shall keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.	40 CFR 63.6655(f), Minn. R. 7011.8150
EQUI 7 (EU006)	30	The Permittee shall keep records in a form suitable and readily available for expeditious review according to 40 CFR Section 63.10(b)(1). As specified in 40 CFR Section 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record. The Permittee shall keep each records readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to 40 CFR Section 63.10(b)(1).	40 CFR 63.10(b)(1), 40 CFR 63.6660, Minn. R. 7011.8150
EQUI 7 (EU006)	31	The Permittee shall report each instance in which the stationary RICE did not meet each applicable operating limitation. These instances are deviations from the emission and operating limitations. These deviations shall be reported according to the requirements in 40 CFR Section 63.6650.	40 CFR 63.6640(b), Minn. R. 7011.8150
EQUI 7 (EU006)	32	Circumvention. The Permittee shall not build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to: (1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere or (2) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions.	40 CFR 63.4(b), Minn. R. 7011.7000
EQUI 7 (EU006)	33	Prior to construction or reconstruction of a major-emitting "affected source" under the promulgated MACT standards, the Permittee must apply for and obtain an air emission permit.	40 CFR 63.5(b)(3), Minn. R. 7011.7000
EQUI 7 (EU006)	34	After the effective date of any relevant standard promulgated by the Administrator under 40 CFR pt. 63, the Permittee who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in 40 CFR Section 63.9(b).	40 CFR 63.5(b)(4), Minn. R. 7011.7000

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EQUI 7 (EU006)	35	After the effective date of any relevant standard promulgated by the Administrator under 40 CFR pt. 63, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source.	40 CFR 63.5(b)(6), Minn. R. 7011.7000
EQUI 7 (EU006)	36	Methods for determining compliance will be, in part, based on the results of performance tests, conformance with operation and maintenance requirements, review of records, and inspection of the source as specified in 40 CFR Section 63.6(f)(2). The Permittee may use the results of performance testing conducted previously if it meets the requirements of 40 CFR Section 63.6(f)(iii).	40 CFR 63.6(f)(2), Minn. R. 7011.7000
EQUI 7 (EU006)	37	Finding of compliance. The Commissioner or the Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard upon obtaining all the compliance information required by the relevant standard.	40 CFR 63.6(f)(3), Minn. R. 7011.7000
EQUI 7 (EU006)	38	The Permittee may establish the use of an alternative nonopacity emission standard by following the procedure specified in 40 CFR Section 63.6(g).	40 CFR 63.6(g), Minn. R. 7011.7000
EQUI 7 (EU006)	39	Until an extension of compliance has been granted by the Administrator, the Permittee shall comply with all applicable requirements of 40 CFR pt. 63, subp. A.	40 CFR 63.6(i)(1), Minn. R. 7011.7000
EQUI 7 (EU006)	40	The Administrator may grant an extension of compliance with an emission standard, as specified in 40 CFR Section 63.6(i).	40 CFR 63.6(i), Minn. R. 7011.7000
EQUI 7 (EU006)	41	Notification. Any change in the information already provided under 40 CFR Section 63.9 shall be provided to the Commissioner and the Administrator in writing within 15 calendar days after the change.	40 CFR 63.9(j), Minn. R. 7019.0100
EQUI 7 (EU006)	42	The Permittee shall submit reports to the Commissioner and shall send a copy of each report to the Administrator.	40 CFR 63.10(a), Minn. R. 7019.0100
EQUI 7 (EU006)	43	Recordkeeping: The Permittee shall maintain files of all information required by 40 CFR pt. 63 in a form suitable and readily available for expeditious inspection and review. The files should be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Only the most recent two years of information must be kept on site.	40 CFR 63.10(b)(1), Minn. R. 7019.0100, subp. 2(B)
EQUI 7 (EU006)	44	The Permittee shall maintain, at a minimum, the following information in the files: 1) the occurrence and duration of each startup, shutdown, or malfunction of operation when the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards; 2) the occurrence and duration of each malfunction of operation (i.e., process equipment) or the required air pollution control and monitoring equipment; 3) all maintenance performed on the air pollution control and monitoring equipment; 4) actions taken during periods of startup, shutdown, and malfunction when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (SSMP). In this case, the Permittee shall report this action within 2 days of occurrence and follow by a written notification within 7 days of occurrence; 5) all information necessary to demonstrate conformance with the affected source's SSMP and actions taken in accordance with SSMP; 6) each period during which a continuous monitoring system (CMS) is malfunctioning or inoperative;	40 CFR 63.10(b)(2), Minn. R. 7019.0100, subp. 2(B)
EQUI 7 (EU006)	44	7) all required measurements needed to demonstrate compliance with a relevant standard; 8) all results of performance test, CMS performance evaluations, and opacity and visible emission observations; 9) all measurements as may be necessary to determine the conditions of performance tests and performance evaluations; 10) all CMS calibration checks; 11) all adjustments and maintenance performed on CMS; 12) any information demonstrating whether a source is meeting the requirements for a waiver of record keeping or reporting requirements under this part; 13) All emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test, if the source has been granted such permission under 40 CFR 63.8(f)(6); and 14) all documentation supporting initial notifications and notifications of compliance status.	40 CFR 63.10(b)(2), Minn. R. 7019.0100, subp. 2(B)
EQUI 7 (EU006)	45	Notwithstanding the requirements in 40 CFR Sections 63.10(d) and 63.10(e), the Permittee shall submit reports to the Commissioner and the Administrator in accordance with the reporting requirements in the relevant standard.	40 CFR 63.10(d)(4), Minn. R. 7019.0100