

**Technical Support Document
for
Draft Air Emission Permit No. 13100071-101**

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: 4911; NAICS: 221112)
Avant Energy 220 South 6th Street, Ste 1300 Minneapolis, Minnesota 55402	Faribault Energy Park 4100 Park Ave N Faribault, MN 55021
Contact: Anna Harmon Phone: 612-259-0311	

1.2 Facility description

Faribault Energy Park (FEP) is an electric power plant composed of a combined cycle combustion turbine generator (CTG) with supplemental duct burner (DB) and associated support equipment. The facility has a total generating capacity of approximately 280 megawatts (net) at 44 degrees Fahrenheit. It is a major stationary source for new source review. The CTG/DB is subject to the federal acid rain program and the Cross-State Air Pollution Rule (CSAPR). The CTG is fueled primarily with pipeline natural gas with very low sulfur (15 part per million) fuel oil for backup, while the DB (when operated) combusts natural gas. Emissions from these units are controlled by low-sulfur fuels, good combustion practices, dry low-NOx combustion, air attemperation, water injection, and selective catalytic reduction.

The facility submitted an administrative permit amendment that the MPCA received on October 4, 2012. Since this amendment requested an extension to a performance test deadline and that (extended) deadline has now passed, the permit does not incorporate the requested change.

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
10/04/2012	Administrative Amendment (IND20120001)
01/13/2009	Part 70 Reissuance (IND20090001)

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	2.4205 1E+02	2.4188 5E+02	2.4188 5E+02	1.3315 0E+02	3.2999 2E+02	1.2573 9E+03	1.4560 2E+06	1.1498 0E+02	6.5210 0E+00	1.6409 0E+01
Total facility actual emissions (2016)	2.2	7.1	5.2	1.4	33.2	43.3	*	0.4	*	

*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

Although this permit does not authorize any specific new equipment or modifications to existing equipment, 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 permit has been updated to reflect current MPCA templates and standard citation formatting.
- The permit incorporates standard “library” requirements where they are available. This helps to provide consistency in the wording of conditions among permits.
- Completed requirements have been deleted in this permit:
 - FEP completed the initial performance tests for the combined cycle/duct burner stack (SV 001/STRU 5) and submitted a test frequency plan. The permit now contains requirements to conduct performance tests on a regular basis.
 - § On July 31-August 1, 2007 and August 9-10, 2007, FEP conducted the initial performance tests of emissions from the combined cycle combustion turbine (EU 001/EQUI 10) and the duct burner (EU 007/EQUI 1). The tests demonstrated compliance with the PM, PM₁₀, and VOC BACT limits.
 - § FEP submitted a frequency plan, postmarked January 8, 2008 for performance tests for PM, PM₁₀, and VOC emissions from SV 001/STRU 5. Based on the tests results and FEP’s plan, the MPCA established a test frequency of every 60 months in a letter dated February 1, 2008. FEP must conduct the next performance tests for PM, PM₁₀, and VOC by August 10, 2022.
- This permit retains conditions limiting the annual (12-month rolling) hours of startup and shutdown operation while burning both natural gas or distillate fuel oil at the combined cycle turbine/duct burner (SV 001/STRU 5). These Title I Conditions for BACT limit emissions of PM, PM₁₀, NO_x, VOC, and CO. However, this permit removes specific numeric monthly cumulative limits on the startup and shutdown during the first year of operation, as the combined cycle turbine/duct burner has now operated more than one year.
- Completed notifications were deleted.
 - Construction on the duct burner began on September 1, 2006.

- FEP started up the duct burner on July 1, 2007.
 - July 5, 2007 was the actual date of initial startup of the combined cycle combustion turbine.¹
- FEP converted the simple cycle turbine to a combined cycle unit. It can no longer be operated in simple cycle mode. The requirements for the simple cycle turbine (EU 006, SV 005/EQUI 5, STRU 1) have been deleted from Air Emission Permit No. 13100071-101.
- Expired construction authorizations have been deleted in this permit:
 - The authorization to construct the auxiliary boiler (EU 002/EQUI 3) included in the Prevention of Significant Deterioration (PSD) permit for facility (Air Emission Permit No. 13100071-002) expired. The requirements for that unit and the associated stack (SV 002/STRU 2) have been deleted.
 - The PSD authorization to construct the diesel fire water pump (EU 004/EQUI 4) expired. The requirements for that unit and the associated stack (SV 004/STRU 4) have been deleted.
- Previous permits identified Dry Low NO_x Combustion for the combined cycle turbine as control equipment (CE 002/TREA 1). However, this is an intrinsic element of the combustion process and not add-on control equipment; its operation is not optional. It has been removed.
- Previous permits identified the Building Service Boiler (EU 008/EQUI 15) and the Natural Gas Fuel Heater (EU 009/EQUI 20) as insignificant activities.
- The CO/O₂ analyzer (identified in previous permits as MR 002, the CO CEMS) has been split into its two monitoring components. EQUI 18 monitors CO, while EQUI 21 monitors O₂.
- Some conditions that apply to the combined cycle turbine or the duct burner were placed at the stack level for the combined emissions of these emission units. The permit moves several of these conditions to the appropriate emission unit.
- The original PSD authorization for FEP allowed the burning of fuel oil in the duct burner. Because FEP did not install this capability, the permit now restricts the duct burner fuel (EQUI 1) to only natural gas. In addition, emission limits in the permit that referenced the combustion of fuel oil in the duct burner have been removed or modified.
- FEP typically burns fuel oil in the combustion turbine only when natural gas supplies are interrupted and FEP is required to operate. This occurs infrequently (usually much less than 100 hours per year), yet the permit required periodic performance testing at worst case conditions (i.e., while burning fuel oil). The conditions requiring periodic performance testing for PM, PM₁₀, and VOCs were modified to require the periodic performance tests to be conducted while combusting natural gas unless the facility operated on fuel oil at least 100 hours during any 12 consecutive months ending prior to the test.
- Certain acid rain provisions that applied to the entire facility were moved from the simple cycle turbine (EU 006/EQUI 5) to the total facility level (TFAC). As noted above, all references to EU 006/EQUI 5 have been removed since simple cycle operation is no longer allowed.
- At the request of the permittee, the permit clarifies the definitions of normal operation and startup/shutdown periods to correlate the permitted operating modes to the turbine startup sequence.
- The permit eliminates the compliance certification report for the Acid Rain program, as this requirement (in 40 CFR 72.90) expired at the end of 2005.
- The permit now restricts the sulfur content of all distillate fuel oil used at the facility to 15 ppm. This drops the facility's potential to emit sulfur dioxide well below 132 tons per year,² so the conditions

¹ See letter from FEP dated June 6, 2007.

² FEP initially accepted the facility-wide limit of 132 tons of SO₂ per year to restrict its emissions of sulfuric acid mist below the PSD significant emission rate of 7 tons per year; thus, FEP avoided PSD review for sulfuric acid mist. The BACT analysis for SO₂ also relied on the 132 tpy limit.

requiring monthly tracking of fuel consumption and monthly calculation of the facility's SO₂ emissions have been removed.

- Transport Rule requirements were added to the permit and included in a permit attachment.
- Limits that previously shown only one significant digit have been extended to two significant digits for clarity. This reflects the policy of EPA and the MPCA to interpret such limits to two significant digits.³
- FEP submitted an updated Acid Rain application. It is included in a permit attachment.

2. Regulatory and/or statutory basis

This section summarizes the applicability of federal and state rules to the equipment at Faribault Energy Park.

2.1 New source review (NSR)

Stationary source status. The facility is an existing major source under New Source Review regulations. The main component of the stationary source is a combined cycle turbine with a heat recovery steam generator and steam electric turbine, so it is a fossil-fuel-fired steam electric plant and therefore subject to the 100 ton per year threshold for stationary sources that are listed in 40 CFR 52.21(b)(1)(a). The facility's potential to emit exceeds 100 tpy for several pollutants.

Construction authorization. In July 2004, the MPCA issued a PSD permit (Air Emission Permit No. 13100071-001) for the construction of this facility. Air Emission Permit No. 13100071-002, issued in January 2005, authorized a change to the turbine model and made changes to BACT limits for the turbine. (The authorization to construct an auxiliary boiler and a diesel fire pump in that permit has now expired.) Air Emission Permit No. 13100071-003 was a PSD permit that amended the previous permit, authorizing the installation of a duct burner and an emergency generator. Air Emission Permit No. 13100071-004 allowed FEP to install an air attemperation (AAS) system that changed the modeled stack parameters. This permit (Air Emission Permit No. 13100071-101) authorizes no physical changes to the facility.

Use of biofuel/biodiesel. The original BACT conditions for the combustion turbine and the duct burner (and the unbuilt auxiliary boiler) authorized the use of natural gas and distillate fuel oil. Air Emission Permit No. 13100071-003 allowed the use of liquid biofuels in addition to those fuels. The authorization to burn biomass oil initially applied only to performance testing, for which the permit allowed a cumulative total of 24 hours. Use of biomass oil during normal operation required written confirmation from the MPCA (if performance testing demonstrated compliance with permit limits) or a permit amendment (if any emissions from burning biomass oil exceeded permit limits). To date, FEP has not used the provisions in the permit to request the MPCA for its approval to use liquid biofuel.

After the MPCA authorized construction of this facility in 2004, using biodiesel (in the form of biomass oil) has become more common. In 2007, the MPCA collected information on the emissions from burning biofuels in stationary combustion devices to develop emission factors. The following table, taken from the report for that project,⁴ illustrates that biodiesel and biodiesel blends generate lower emissions than the comparable fuel (with the exception of CO):

Table 5. Emission Factors for Biodiesel and Diesel Fuels

Fuel	CO	NO _x	SO _x	PM	VOC
100% Biodiesel (B100)	0.006 - 0.104	0.109 - 0.119	0	0.002	NA

³ EPA's policy is referenced in "Performance Test Calculation Guidelines." William G. Laxton and John S. Seitz, US EPA. June 6, 1990.

⁴ See Table 4-10 in Emission Factors for Priority Biofuels in Minnesota. Prepared for the Minnesota Pollution Control Agency by Eastern Research Group, June 30, 2007.

Fuel	CO	NO _x	SO _x	PM	VOC
Distillate Fuel Oil	0.04	0.14	1.01	0.01	3.97E-03
Biodiesel blends with #6 Fuel Oil (B5 to B20)	0.13-0.21	0.27-0.31	1.56-1.67	NA	NA
Residual Fuel Oil (#6)	0.03	0.37	1.92	0.07	1.07E-02

EPA has also taken steps to normalize the use of biodiesel. When discussing the proposed change to the definition of distillate oil for the Standards of Performance for Industrial-Commercial-Institutional and Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR pt. 60, subps. Db and Dc), EPA indicated that "biodiesel ... [has] combustion characteristics similar to those of distillate oil." (See 75 FR 25062; May 3, 2011.) In subp. Db, EPA now provides the revised definition:

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §60.17), diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17), kerosine [*sic*], as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see §60.17), biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see §60.17), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see §60.17).⁵

Because EPA now makes no distinction between biodiesel and other forms of distillate oil and because the emissions from biodiesel are comparable to those from distillate fuel oil, the MPCA is removing the requirement to conduct and report the results of performance tests prior to its use; FEP may use biodiesel interchangeably with distillate oil from other sources. The BACT emission limits for the combined stack gases from the turbine and the duct burner still apply. Those stack gases will be monitored continuously for CO and NO_x and are subject to periodic performance tests for PM, PM₁₀, and VOCs. FEP will comply with the SO₂ BACT limit by using fuel oil with a maximum of 15 parts per million sulfur.

2.2 Part 70 permit program

The facility is a major source under the Part 70 permit program. The facility's potential to emit exceeds the 100 ton per year threshold for particulate matter, particulate matter less than 10 microns in diameter, nitrogen oxides, sulfur dioxide, and volatile organic compounds.

2.3 New source performance standards (NSPS)

Several federal new source performance standards apply at the facility:

- FEP commenced construction of the 249 MMBtu/hr duct burner, EQUI 1, on September 1, 2006 (after June 19, 1984), so 40 CFR pt. 60, subp. Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) applies to the unit. However, since EQUI 1 will combust only pipeline natural gas limited to 0.8 grains/100 scf, the duct burner is not subject to the PM or opacity limits in 40 CFR 60.43b.
- The 750 MW (1000 hp) emergency generator (EQUI 2) is a compression ignition unit. Because construction on the generator commenced on August 22, 2006 (after July 11, 2005), it is subject to 40 CFR pt. 60, subp. IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines).
- EQUI 10, the combined cycle turbine with a heat input of 1795 MMBtu/hr, was initially a simple cycle turbine. Construction on the simple cycle turbine commenced on July 28, 2004 (after October

⁵ 40 CFR § 60.41b. Revision promulgated on February 16, 2012 (77 FR 9459) and effective on April 16, 2012.

3, 1977), so the unit is subject to 40 CFR pt. 60, subp. GG (Standards of Performance for Stationary Gas Turbines). However, EQUI 10 is not subject to 40 CFR pt. 60, subp. KKKK (Standards of Performance for Stationary Gas Turbines) since initial construction on the turbine (in this case, the simple cycle turbine) began prior to February 18, 2005, The switch of the simple cycle turbine to the combined cycle turbine commenced on September 1, 2006 but the changes to the turbine did not constitute a modification under 40 CFR § 60.14 as the change led to no increases in the pollutants for which limits are stated in subp. KKKK.

2.4 National emission standards for hazardous air pollutants (NESHAP)

The facility is a minor source (also known as an area source) of HAPs. The permit restricts emissions of any hazardous air pollutant (HAP) to less than 10 tons per year and total HAPs to less than 25 tons per year.

Because FEP is not a major source of HAP emissions, the requirements of 40 CFR pt. 63, subp. YYYY (National Emission Standards for Stationary Combustion Turbines) do not apply.

Requirements of 40 CFR pt. 63, subp. ZZZZ (National Emission Standards for Stationary Reciprocating Internal Combustion Engines) for new stationary reciprocating internal combustion engines (RICE) apply to the 750 MW (1000 hp) emergency generator (EQUI 2). Construction this unit commenced on August 22, 2006 (after June 12, 2006). Since EQUI 2 is a stationary RICE located at an area source, it meets the requirements of subp. ZZZZ by complying with 40 CFR pt. 60, subp. IIII.⁶

2.5 Acid rain program

The facility is subject to the federal Acid Rain program, operated by the US Environmental Protection Agency's Clean Air Markets Division (CAMD). The GE combined cycle combustion turbine (EQUI 10 with duct burner EQUI 1) is a utility unit, as well as a new unit, an oil-fired unit, and a gas-fired unit, as defined in 40 CFR Section 72.2. FEP's Acid Rain Permit Application is appended to the permit.

2.6 Transport Rule

The facility is subject to the federal Cross-State Air Pollution Rule (40 CFR pt. 97), which is also known as the Transport Rule. Under this program, the facility is allocated 3 tons of SO₂ allowances and 59 tons of NO_x allowances for each year from 2015 to 2020. The permit conditions addressing the Transport Rule are included at the Total Facility (TFAC) level. CAMD administers these requirements.

The following table summarizes the emissions reported by FEP to CAMD:

Table 6. Acid Rain/CSAPR Emissions Reported to CAMD

Year	SO ₂ (tons)	NO _x (tons)
2005	0.522	18.080
2006	0.610	19.523
2007	1.970	59.142
2008	2.386	37.244
2009	2.907	21.576
2010	1.378	23.926
2011	0.655	18.078
2012	1.654	34.581
2013	1.615	50.919
2014	0.766	32.970

⁶ See 40 CFR § 63.6590(c)(1).

2015	1.061	27.206
2016	1.373	33.005

2.7 State implementation plan (SIP)

There are no conditions in the permit identified as being part of the State Implementation Plan.

2.8 Compliance assurance monitoring (CAM)

The CAM rule (40 CFR pt. 64) indicates that an emission unit at a major part 70 source is a large pollutant-specific unit subject to CAM if it:⁷

- Is subject to an emissions limitation or standard for the applicable regulated air pollutant;
- Uses a control device to achieve compliance; and it
- Has pre-control device emissions of the applicable regulated pollutant that are equal to or greater than 100% of the amount required for the source to be classified as a major source.

EQUI 10, the combustion turbine, meets these criteria for NO_x. It:

- Is subject to a BACT limit for NO_x;
- Uses an air attemperation system (AAS), a water injection system, and selective catalytic reduction (SCR) to reduce NO_x emissions; and
- Has uncontrolled emissions and limited controlled emissions exceeding 100 tons per year.

As a combustion source, EQUI 10's operation generates NO_x emissions. Before the gases from the combustion turbine enter the heat recovery steam generator (HRSG), an air attemperation system (TREA 8) moderates the temperature to prevent damage to the HRSG. The duct burner (EQUI 1), which resides in the HRSG, can also be operated to generate addition energy; its operation also generates NO_x emissions.

The combined emissions from the combustion turbine and the duct burner exhaust through a common stack. Prior to being exhausted to the atmosphere through STRU 5, the emissions are treated using a selective catalytic reduction (SCR) system (TREA 7).

Units subject to CAM require enhanced monitoring. However, EQUI 10 is already subject to the monitoring requirements of the Acid Rain Program (40 CFR pt. 75). As indicated in §64.3(d)(2)(iv), meeting the Part 75 monitoring conditions satisfies the CAM requirements.

2.9 Environmental review and air emissions risk analysis (AERA)

The current permit action does not require Environmental Review or an AERA.

When planned in 2003, the facility qualified as a large electric power generating plant as defined in Minn. Stat. 116C.52 subd. 5, requiring the preparation of an Environmental Impact Statement (EIS).⁸ An AERA was prepared for that project.⁹ On May 24, 2004, the EIS was completed and determined to be adequate by the Minnesota Environmental Quality Board (the responsible governmental unit for the EIS).

2.10 Minnesota State Rules

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

- Minn. R. 7011.0515 Standards of Performance for Fossil-Fuel-Burning Indirect Heating Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment

⁷ See 40 CFR § 64.2(a).

⁸ Minn. R. 4410.4400, subp. 3 mandates the preparation of an EIS for large electric power generating plants.

⁹ A summary of the AERA is provided in the Technical Support Document for Air Emission Permit No. 13100071-001.

- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines. The combustion turbine and the emergency generator are subject to this standard.

Please note that a provision of Minn. R. 7011.2300 took effect on January 31, 2018. This requirement limits SO₂ emissions from a stationary internal combustion engine (such as EQUI 2, the emergency generator, and EQUI 10, the turbine) to 0.0015 pounds per million BTU of heat input.¹⁰

Table 7. Regulatory overview of facility

EQUI 1 - Duct Burner	40 CFR pt. 60, subp. Db & Minn. R. 7011.0565	<p>Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (40 CFR pt. 60, subp. Db): EQUI 1 is subject to this standard because:</p> <ul style="list-style-type: none"> • The heat input capacity of 249 MMBtu/hr exceeds 100 MMBtu/hr; and • Construction on the duct burner began on September 1, 2006 (after June 19, 1984). <p>EQUI 1 is not subject to the PM or opacity limits in 40 CFR §60.43b because the duct burner will only combust liquid and gaseous fuels that result in a sulfur dioxide emission rate no greater than 0.32 lb/MMBtu. EQUI 1 must meet the SO₂ and NO_x limits of §60.43b and §60.44b(a)(1), respectively.</p> <p>40 CFR §60.41b indicates that emissions from the heat recovery steam generator (HRSG; measured at STRU 5), including those from the duct burner, will be used to determine compliance with subp. Db. The emissions from STRU 5 include those from EQUI 10, the combined cycle turbine.</p> <p>While the use of a continuous monitoring system to measure NO_x emissions from the duct burner is not required under §60.48b(h), §60.48b(b)(2) allows the use of the acid rain monitoring NO_x CEMS to meet the requirements of §60.48b. (The combined cycle system is subject to NO_x monitoring for the acid rain program.) FEP will continue to use the pt. 75 NO_x CEMS at the outlet of the HRSG to determine compliance with the NO_x limit.</p> <p>Since subp. Db applies to the duct burner, the state standard of performance for Indirect Heating Fossil-Fuel-Burning Equipment (Minn. R. 7011.0500-0.550) does not apply.</p>
	Title I Condition: 40 CFR 52.21(j) (BACT) & Minn. R. 7007.3000	<p>Air Emission Permit No. 13100071-003 (issued June 5, 2007) authorized the installation of the duct burner. A BACT analysis for that permit established a limit on SO₂ emissions.</p> <p>Additional BACT conditions for emissions from the duct burner are found at STRU 5.</p>

¹⁰ The rule allows for a higher emission rate if the Permittee demonstrates modeled compliance with the sulfur dioxide standards in Minn. R. 7009.0080 while assuming operation at that higher rate.

EQUI 2 - Reciprocating IC Engine	40 CFR pt. 60, subp. IIII and Minn. R. 7011.2305	Construction of EQUI 2 commenced on August 22, 2006 (after July 11, 2005). It is an emergency generator with an output of 750 MW (1000 HP) with a cylinder displacement of less than 10 liters.
	40 CFR pt. 63, subp. ZZZZ and Minn. R. 7011.8150	EQUI 2 is an emergency generator located at an area source of HAP emissions. In accordance with 40 CFR 63.6590(a)(c)(1), it is a new affected source since construction on EQUI 2 commenced after June 12, 2006. To comply with subp. ZZZZ, it must meet the requirements 40 CFR pt. 60, subp. IIII.
	Minn. R. 7005.0100, subp. 35a	The engine's potential to emit SO ₂ is limited by the sulfur content of the allowed fuels.
	Minn. R. 7007.0800, subps.4 & 5	EQUI 2 is an emergency generator. EPA guidance restricts the use of an emergency generator to 500 hours per year.
	Minn. R. 7011.2300	As an internal combustion engine, EQUI 2 (the emergency generator) is subject to the opacity and PM limits of state Standards of Performance for Internal Combustion Engines. Compliance with the BACT limit for PM demonstrates compliance with the state PM limit.
	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000	Air Emission Permit No. 13100071-003 (issued June 5, 2007) authorized the installation of the emergency generator. A BACT analysis for that permit established limits on PM, PM ₁₀ , SO ₂ , NO _x , CO, and VOC emissions.
	Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000	FEP accepted a limit on the daily hours of operation of the emergency generator in order to demonstrate modeled compliance with the 24-hour PSD increment for PM ₁₀ .
EQUI 10 - Turbine	40 CFR pt. 60, subp. GG & Minn. R 7011	Construction of the turbine commenced on July 28, 2004 ¹¹ (after October 3, 1977). The heat input of 1795 MMBtu/hr exceeds the 10 MMBtu/hr minimum threshold for the applicability of 40 CFR pt. 60, subp. GG.
	Minn. R. 7007.0800, subp. 2	The turbine is limited to burn natural gas and distillate fuel oil. Its SO ₂ emissions are limited by the sulfur content of the allowed fuels.
	Minn. R. 7011.2300	As an internal combustion engine, EQUI 10 (the combined cycle turbine) is subject to the opacity and PM limits of state Standards of Performance for Internal Combustion Engines. Compliance with the BACT limit for PM demonstrates compliance with the state PM limit.
	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000	Air Emission Permit No. 13100071-003 (issued June 5, 2007) authorized the installation of the combustion turbine. A BACT analysis for that permit established limits on PM, PM ₁₀ , SO ₂ , NO _x , CO and VOC emissions.
EQUI 15 - Boiler	Minn. R. 7011.0515	Since construction on EQUI 15 commenced on February 1, 2007 (after January 31, 1977, it must meet the new indirect heating equipment requirements for PM, SO ₂ , and opacity. Because the heat input is 4.185 MMBtu/hr, it must meet the opacity requirements of the second paragraph of Minn. R. 7011.0515, subp. 2.

¹¹ This reflects the date the turbine was constructed. FEP initially operated it as a simple cycle turbine. In 2006-2007, FEP converted it to a combined cycle turbine.

EQUI 17 - Continuous Emission Monitor	40 CFR pt. 60	EQUI 17 monitors NO _x emissions from STRU 5 to demonstrate compliance with 40 CFR pt. 60, subps. Db and GG, so it is subject to the NSPS general provisions (subp. A) and the monitoring requirements (Appendix F).
	40 CFR pt. 75	EQUI 17 monitors NO _x emissions from STRU 5 to demonstrate compliance with the Acid Rain rules, so it is subject to the provisions of 40 CFR pt. 75.
	Minn. R. 7007.0800, subp. 4.A	EQUI 17 monitors NO _x emissions from STRU 5 to demonstrate compliance with BACT, NSPS, and Acid Rain provisions. The facility must comply with all applicable monitoring requirements.
	Minn. R. 7017	EQUI 17 monitors NO _x emissions from STRU 5 to demonstrate compliance with BACT limits. The monitoring requirements for these limits are found in state rules in Minn. R. ch. 7017.
	Title I Condition: 40 CFR 52(j)(BACT) & Minn. R. 7007.3000	EQUI 17 monitors NO _x emissions from STRU 5 to demonstrate compliance with BACT limits. The recordkeeping requirements are elements of the BACT conditions.
EQUI 18 - Continuous Emission Monitor	Minn. R. 7007.0800, subp. 4.A	EQUI 18 monitors CO emissions from STRU 5 to demonstrate compliance with BACT limits. The facility must comply with all applicable monitoring requirements.
	Minn. R. 7017	EQUI 18 monitors CO emissions from STRU 5 to demonstrate compliance with BACT limits. The monitoring requirements for these limits are found in state rules in Minn. R. ch. 7017. These state rules include a requirement for a quality assurance plan for each CEMS. Although federal rules may not apply directly, the state requirements reference federal rules (Appendix F of 40 CFR pt. 60 or Appendix B of 40 CFR pt. 75).
	Title I Condition: 40 CFR 52(j)(BACT) & Minn. R. 7007.3000	EQUI 18 monitors CO emissions from STRU 5 to demonstrate compliance with BACT limits. The recordkeeping requirements are elements of the BACT conditions.
EQUI 20 - Boiler	Minn. R. 7011.0515	Since construction on EQUI 20 commenced on February 1, 2007 (after January 31, 1977, it must meet the new indirect heating equipment requirements for PM, SO ₂ , and opacity. Because the heat input is 3.2 MMBtu/hr, it must meet the opacity requirements of the second paragraph of Minn. R. 7011.0515, subp. 2.
EQUI 21 - Continuous Emission Monitor	40 CFR pt. 60	EQUI 21 monitors the O ₂ concentration of STRU 5 to demonstrate compliance with 40 CFR pt. 60, subps. Db and GG, so it is subject to the NSPS general provisions (subp. A) and the monitoring requirements (Appendix F).
	40 CFR pt. 75	EQUI 21 monitors the O ₂ concentration of STRU 5 to demonstrate compliance with the Acid Rain rules, so it is subject to the provisions of 40 CFR pt. 75.
	Minn. R. 7007, subp. 4.A	EQUI 21 monitors the O ₂ concentration of STRU 5 to demonstrate compliance with BACT limits. The facility must comply with all applicable monitoring requirements.
	Minn. R. 7017	EQUI 21 monitors the O ₂ concentration of STRU 5 to demonstrate compliance with BACT limits. The monitoring requirements for these limits are found in state rules in Minn. R. ch. 7017.

	Title I Condition: 40 CFR 52(j)(BACT) & Minn. R. 7007.3000	EQUI 21 monitors the O ₂ concentration of STRU 5 to demonstrate compliance with BACT limits. The recordkeeping requirements are elements of the BACT conditions.
STRU 5 - Stack/Vent	40 CFR pt. 60	Both the combustion turbine (EQUI 10) and the duct burner (EQUI 1) are subject to New Source Performance Standards; these units exhaust to STRU 5. Requirements applying to the combined exhaust and requirements to monitor are placed at STRU 5.
	40 CFR pt. 64	The combined emissions from the combustion turbine (EQUI 10) and the duct burner (EQUI 1) exhaust through STRU 5. NO _x emissions potentially exceeding 100 tpy are controlled by selective catalytic reduction (TREA 7). The NO _x CEMS meets the requirements for compliance assurance monitoring (CAM).
	40 CFR pt. 72, 40 CFR pt. 75	The combustion turbine (EQUI 10) is subject to the Acid Rain Program and exhausts through STRU 5.
	Minn. R. 7007	These conditions clarify the monitoring and recordkeeping to demonstrate compliance with emission limitations.
	Minn. R. 7011	Both the combustion turbine (EQUI 10) and the duct burner (EQUI 1) are subject to state standards of performance; these units exhaust to STRU 5. Requirements applying to the combined exhaust and requirements to monitor are placed at STRU 5.
	Minn. R. 7017	Both the combustion turbine (EQUI 10) and the duct burner (EQUI 1) are subject to BACT limits; these units exhaust to STRU 5. Performance testing and monitoring requirements applying to the combined exhaust are placed at STRU 5.
	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000	Air Emission Permit No. 13100071-003 (issued June 5, 2007) authorized the installation of the combined cycle turbine. A BACT analysis for that permit established limits on PM, PM ₁₀ , SO ₂ , NO _x , CO, and VOC emissions for the combined exhaust gases from EQUI 1 AND EQUI 10.
	Title I Condition: Avoid major modification under 40 CFR pt. 52	The fuel sulfur limitation restricts sulfuric acid mist emissions below PSD significant emission rates.
TFAC 1 - Air Quality Total Facility	Title I Condition: 40 CFR pt. 52	Ambient air quality. Relied on for BACT analysis. Reasonable possibility. Applies to all major PSD stationary sources.
	Minn. Stat. 116	Ambient Air Quality Standards: The facility previously conducted dispersion modeling for CO, NO _x , PM ₁₀ , and SO ₂ . The appendix to the permit contains the modeled parameters for each of these pollutants.

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

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

citizens under the federal Clean Air Act, but are fully enforceable by the MPCA and citizens under provisions of state law.

3. Technical information

3.1 Calculations of potential to emit (PTE)

In its permit applications, FEP developed its calculations of criteria pollutants and hazardous air pollutants primarily using AP-42 and manufacturer's data. This information was reviewed and supplemented during application review. Details can be found in the following table:

Table 8. Summary of Sources of Emissions Estimates

Emission Unit	Pollutants	Source
Duct Burner (EQUI 1)	PM, PM ₁₀ , NO _x , CO, VOC	Manufacturer's data
	SO ₂	AP-42, Table 1.4-2; National Emission Inventory (natural gas)
	H ₂ SO ₄	Mass balance
	HAPs	AP-42, Tables 1.4-2, 1.4-3, and 1.4-4; National Emission Inventory (natural gas)
	GHGs	40 CFR pt. 98, Tables A-1, C-1, and C-2
Emergency Generator (EQUI 2)	PM, SO ₂ , NO _x , CO, VOC	AP-42, Tables 3.4-1 and 3.4-2
	H ₂ SO ₄	Mass balance
	HAPs	AP-42, Tables 3.4-3 and 3.4-4
	GHGs	40 CFR pt. 98, Tables A-1, C-1, and C-2
Combustion Turbine (EQUI 10)	PM, PM ₁₀ , NO _x , CO, VOC	Manufacturer's data
	SO ₂ , H ₂ SO ₄	Mass balance
	HAPs	AP-42, Table 3.1-3; National Emission Inventory (natural gas) AP-42, Table 3.1-4; National Emission Inventory (distillate fuel oil)
	GHGs	40 CFR pt. 98, Tables A-1, C-1, and C-2
Building Services Boiler (EQUI 15)	PM, PM ₁₀ , SO ₂ , NO _x , CO, VOC	AP-42, Tables 1.4.1 and 1.4-2 (natural gas) AP-42, Tables 1.3-1, 1.3-2, and 1.3-3 (distillate fuel oil)
	H ₂ SO ₄	Mass balance
	HAPs	AP-42, Tables 1.4-3 and 1.4-4 (natural gas) AP-42, Tables 1.3-8, 1.3-9, and 1.3-10 (distillate fuel oil)
	GHGs	40 CFR pt. 98, Tables A-1, C-1, and C-2
Fuel Gas Heater (EQUI 20)	PM, PM ₁₀ , SO ₂ , NO _x , CO, VOC	AP-42, Tables 1.4.1 and 1.4-2 (natural gas)
	H ₂ SO ₄	Mass balance
	HAPs	AP-42, Tables 1.4-3 and 1.4-4 (natural gas)
	GHGs	40 CFR pt. 98, Tables A-1, C-1, and C-2

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

3.2 Dispersion modeling

FEP most recently triggered PSD review for Air Emission Permit No. 13100071-003, a PSD permit to revise the choice of turbine and for the addition of a duct burner. In the application for that permit, FEP conducted an ambient air quality analysis for each criteria pollutant that exceeded the major modification thresholds. For PM₁₀, the modeling included an analysis of several scenarios (90° F, 44° F, and 0° F, at 60%, 80% and

100% load, natural gas and/or fuel oil, and startup/shutdown). The FEP demonstrated compliance with the state and federal ambient air quality standards at the time of the modification.¹²

In that permitting action, FEP also needed to demonstrate that the PSD increments were protected. For the PSD 24-hour PM₁₀ increment, FEP accepted a 10-hour per day limit on the operation of the emergency generator (EQUI 2).¹³

The following table, taken from the Technical Support Document for Air Emission Permit No. 13100071-003, provides the most recent summary of ambient impacts:

Table 9. Dispersion Modeling Results

Pollutant	Averaging Time	Operating Scenario	Concentrations (µg/m ³)				% of standard
			Modeled	Background	Total	AAQS	
NO _x	Annual	Auxiliary Boiler Only (NG-Fired)	12.51	17	29.51	100	29.5
PM ₁₀	Annual	Oil-Firing all units; no Duct Burner	3.83	27	30.83	50	61.7
	24-hour		13.36	37	50.36	150	33.6
SO ₂	Annual	Oil-Firing all units; no Duct Burner	7.95	5	12.95	80	16.2
	24-hour		27.23	60	88.23	365	24.2
	3-hour		41.87	128	169.87	1300	13.1
	1-hour (state)		49.31	181	230.31	1300	17.7
CO	8-hour	Combined Cycle NG; no Duct Burner	63.88	--	63.88	10000	0.6
	1-hour (state)		97.28	--	97.28	40000	0.2
CO	1-hour (state)	Combustion Turbine Startup/Shutdown	159.75	--	159.75	40000	0.4
SO ₂	1-hour (state)	Combustion Turbine Startup/Shutdown	10.0	--	10.0	50	20.0
	3-hour	Combustion Turbine Startup/Shutdown	7.64	--	7.64	150	5.1

All maximum predicted impacts in the table are below 62% of their associated standard, with the modeled annual PM₁₀ impact being the highest. These values do not indicate a threat to the National Ambient Air Quality Standards (NAAQS), particularly considering the expiration and removal of the authorization to construct the auxiliary boiler (which was included in the modeling) and the new limitation of sulfur content in fuel oil to 15 ppm.

A table of the various scenarios modeled for the PSD permit (Air Emission Permit No. 13100071-002) is included as Appendix B to the permit. Other than the limitation on the operating hours of the emergency generator, the parameters listed in Appendix B of the permit describe the operation of the facility at maximum capacity. In other words, the flow rates and temperatures listed in Appendix B represent the

¹² The Technical Support Document for Air Emission Permit No. 1310007-003 provides additional details on the modeling demonstration, as does the PSD permit application that listed the parameters that were modeled (and which are excerpted in Appendix B to the permit) and the resulting air quality impacts were found in the air permit application received by the MPCA on January 8, 2007. (OnBase handle number 312157.)

¹³ Another permit condition (now omitted from the proposed reissuance) limited the operation of the auxiliary boiler to periods during which the combustion turbine (EQUI 10) was not operating or was in startup or shutdown mode. However, that limitation is moot as the auxiliary boiler was not built and authorization to build it has now expired.

minimum parameters at the maximum emission rates; they are not representative of the modeling run causing the greatest ambient impacts. The MPCA does not require any specific compliance demonstration with these parameters because they are worse-case conditions. The purpose of listing the parameters in the permit appendix is to provide a benchmark for determining if and when additional modeling is required.

3.3 Performance testing

The PSD permit requires performance tests for PM, PM₁₀, and VOCs.

Results

FEP conducted performance tests for the simple cycle turbine, for the combined cycle turbine, and for the combined cycle turbine with the duct burner. Since the simple cycle turbine was converted to the combined cycle turbine and no longer operates, the following table summarizes the performance test results only from the combined cycle turbine with and without the duct burner:

Table 10. Summary of Performance Testing

Date	Unit(s)	Fuel	Pollutant	Limit	Units	Result
August 10, 2007 ¹⁴	EQUI 10	Natural gas	PM	0.010	lb/MMBtu	0.0045
			PM ₁₀	0.010	lb/MMBtu	0.0045
			VOC	1.5	ppmd@15% O ₂	0.48
	EQUI 10/EQUI 1	Natural gas/ natural gas	PM	0.010	lb/MMBtu	0.003
			PM ₁₀	0.010	lb/MMBtu	0.003
			VOC	1.5	ppmd@15% O ₂	0.81
December 21, 2007 ¹⁵	EQUI 10	Fuel oil	PM	0.030	lb/MMBtu	0.004
			PM ₁₀	0.030	lb/MMBtu	0.004
			SO ₂	0.051	lb/MMBtu	0.0003
			VOC	3.5	ppmd@15% O ₂	0.12
August 15, 2012 ¹⁶	EQUI 10	Natural gas	PM	0.010	lb/MMBtu	0.001
			PM ₁₀	0.010	lb/MMBtu	0.003
			VOC	1.5	ppmd@15% O ₂	0.15
	EQUI 10/EQUI 1	Natural gas/ natural gas	PM	0.010	lb/MMBtu	0.01
			PM ₁₀	0.010	lb/MMBtu	0.002
			VOC	1.5	ppmd@15% O ₂	0.17
January 21, 2013	EQUI 10	Fuel oil	PM	0.030	lb/MMBtu	0.005
			PM ₁₀	0.030	lb/MMBtu	0.005
			SO ₂	0.051	lb/MMBtu	0.001
			VOC	3.5	ppmd@15% O ₂	0.044
July 18, 2017 ¹⁷	EQUI 10	Natural gas	PM	0.010	lb/MMBtu	0.0003
			PM ₁₀	0.010	lb/MMBtu	0.0007
			VOC	1.5	ppmd@15% O ₂	0.22

¹⁴ OnBase handle number 97588.

¹⁵ OnBase handle number 116479.

¹⁶ OnBase handle number 944397.

¹⁷ OnBase handle number 2351279..

Date	Unit(s)	Fuel	Pollutant	Limit	Units	Result
	EQUI 10/EQUI 1	Natural gas/ natural gas	PM	0.010	lb/MMBtu	0.0004
			PM ₁₀	0.010	lb/MMBtu	0.0008
			VOC	1.5	ppmd@15% O ₂	0.46
January 18, 2018 ¹⁸	EQUI 10	Fuel oil	PM	0.030	lb/MMBtu	≤0.0020
			PM ₁₀	0.030	lb/MMBtu	≤0.0024
			SO ₂	0.051	lb/MMBtu	0.0003
			VOC	3.5	ppmd@15% O ₂	0.10

FEP demonstrated compliance with the permit limits in each of these tests.

Future testing

The combined cycle turbine currently operates almost exclusively on natural gas. Because of this, FEP asked if it could avoid conducting its required performance tests while combusting fuel oil after lengthy periods of combusting only natural gas.

In response, the MPCA modified the requirement. The permit still requires FEP to conduct periodic performance tests at least every five years to demonstrate compliance with BACT limits. However, the modified requirement allows the company to conduct the performance test when combusting natural gas if there has been no significant amount of operation on fuel oil since the last performance test. If FEP has combusted fuel oil for a significant period of operation – defined as more than 100 hours in any 12 consecutive month period – on fuel oil, a performance test on fuel oil is required.

The MPCA encourages but does not require FEP to test on fuel oil during the period when the facility is already combusting fuel oil; this would allow FEP to avoid a switch to fuel oil only for the performance test. However, if the performance test is conducted more than 60 days prior to the test due date, it resets the test due date for future testing.

3.4 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 complies 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 11 summarizes the monitoring requirements.

¹⁸ OnBase handle number 2489562.

Table 11. Monitoring

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 1 Duct burner	SO ₂ ≤ 0.32 lb/MMBtu; Fuel sulfur ≤ 0.3% by weight [40 CFR pt. 60, subp. Db & Minn. R. 7011.0565]	Obtain and keep fuel supplier certifications of sulfur content of fuels burned	Meets New Source Performance Standard requirements. Allows for direct compliance determination.
	NO _x ≤ 0.20 lb/MMBtu (30-day rolling average) including [40 CFR pt. 60, subp. Db & Minn. R. 7011.0565]	Continuous emission monitoring (CEM); daily calculation of rolling average	Meets New Source Performance Standard requirements. Allows for direct measurement of NO _x emissions.
EQUI 2 Emergency generator	Opacity ≤ 20% opacity [Minn. R. 7011.2300]	None	Use of ultra-low sulfur diesel fuel inherently results in low opacity.
	Operating Hours ≤ 10.0 hours per day [Title I Condition: 40 CFR 52.21(k) (modeling)]	Daily tracking of operating hours	Measures the parameter that is limited (operating hours) directly.
	NO _x ≤ 9.2 g/kWh (6.9 g/hp-hr). [40 CFR 60.4205(a), 40 CFR 60.4212(d), Minn. R. 7011.2305] CO ≤ 11.4 g/kWh (8.5 g/hp-hr). [40 CFR 60.4205(a), 40 CFR 60.4212(d), Minn. R. 7011.2305] PM ≤ 0.54 g/kWh (0.40 g/hp-hr). [40 CFR 60.4205(a), 40 CFR 60.4212(d), Minn. R. 7011.2305]	Non-resettable hour meter, compliance demonstration according to one of the methods in 40 CFR § 60.4211 (b), recordkeeping.	NSPS subp. IIII is a post-1990 standard that contains adequate periodic monitoring to demonstrate compliance with the limits.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
	Hydrocarbons <= 1.3 g/kWh (1.0 g/hp-hr). [40 CFR 60.4205(a), 40 CFR 60.4212(d), Minn. R. 7011.2305]		
	SO ₂ <= 0.0015 lb/MMBtu [Minn. R. 7011.2300, subp. 2(B)]	Obtain and keep fuel supplier certifications of sulfur content of fuels burned.	Directly ensures compliance.
EQUI 10 Combined cycle combustion turbine	Opacity <= 20% opacity. [Minn. R. 7011.2300, subp. 1]	None (equipment design and allowable fuels)	Required use of ultra-low sulfur diesel fuel inherently results in low opacity.
	SO ₂ <= 150 ppm @ 15% O ₂ , or Sulfur content of fuel: <= 0.8% by weight. [40 CFR 60.333, Minn. R. 7011.2350] SO ₂ <= 0.50 lb/MMBtu heat input. [Minn. R. 7011.2300, subp. 2(A)] SO ₂ <= 0.0015 lb/MMBtu heat input. ¹⁹ [Minn. R. 7011.2300, subp. 2(B)]	Equipment design and allowable fuels	Required use of natural gas and ultra-low sulfur diesel fuel ensures compliance. Also meets New Source Performance Standard requirements.
EQUI 15 Building Services Boiler	Opacity <= 20% opacity except 1 6-minute period per hour of <=60% opacity. PM <= 0.40 pounds per million Btu heat input [Minn. R. 7011.0515, subps. 1 & 2]	Equipment design and allowable fuels	Required use of natural gas and ultra-low sulfur diesel fuel inherently results in low opacity and low particulate emissions. The potential to emit from the unit is 0.014 lb PM/MMBtu due to equipment design and allowable fuels.

¹⁹ Limit is effective on January 31, 2018.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 20 Fuel Gas Heater	PM <= 0.40 lb/MMBtu heat input. Opacity <= 20% opacity except 1 6-minute period per hour of <=60% opacity. [Minn. R. 7011.0515, subps. 1 & 2]	Equipment design and allowable fuels	Required use of natural gas inherently results in low opacity and low particulate emissions. The potential to emit from the unit is 0.014 lb PM/MMBtu due to equipment design and allowable fuels.
STRU 5 Combustion Turbine with Duct Burner Stack	NO _x <= 3.0 ppmvd 3-hour average @15% O ₂ ²⁰ NO _x <= 6.0 ppmvd 3-hour average @ 15% O ₂ ²¹	CEMS	Allows for continuous, direct measurement of NO _x emissions. Meets New Source Performance Standard requirements.
	SO ₂ <= 0.051 lb/MMBtu heat input ²² [40 CFR 60.333, Minn. R. 7011.2300, subp. 2, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000]	Obtain and keep fuel supplier certifications of sulfur content of fuels burned	Allows for direct compliance determination. Meets New Source Performance Standard requirements.
	CO <= 9.0 parts per million 3-hour average by volume on a dry basis @ 15% O ₂ ²³ CO <= 20.0 ppmvd 3-hour average @ 15% O ₂ ²⁴	CEMS	Allows for continuous, direct measurement of CO emissions.

²⁰ Limit applies at all times when EQUI 10 combusts on natural gas and EQUI 1 is not operating, or when EQUI 10 and EQUI 1 combust natural gas; except during startup, shutdown, or malfunction.

²¹ Limit applies at all times when EQUI 10 combusts distillate fuel oil and EQUI 1 is not operating, or when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas; except during startup, shutdown, or malfunction.

²² Limit applies at all times when EQUI 10 combusts distillate fuel oil.

²³ Limit applies at all times when EQUI 10 combusts natural gas and EQUI 1 is not operating; except during startup, shutdown, or malfunction.

²⁴ Limit applies at all times when EQUI 10 combusts distillate fuel oil and EQUI 1 is not operating; except during startup, shutdown, or malfunction.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
	CO ≤ 11.0 ppmvd 3-hour average @ 15% O ₂ ²⁵ CO ≤ 23.0 ppmvd 3-hour average @ 15% O ₂ ²⁶ [Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000]		
	Total PM ≤ 0.01 pounds per million Btu heat input 3-hour average ²⁷ Total PM ≤ 0.03 pounds per million Btu heat input 3-hour average ²⁸ [Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000]	Periodic performance test	The initial performance test demonstrated actual emissions well below (less than 60 percent of) the permitted limits, so tests are required every 5 years (60 months). Periodic testing at worst-case conditions will identify degradation in performance.
	PM < 10 micron ≤ 0.01 pounds per million Btu heat input 3-hour average ²⁹	Periodic performance test	The initial performance test demonstrated actual emissions well below (less than 60 percent of) the permitted limits, so tests are required every 5 years (60 months). Periodic testing at worst-case conditions will identify degradation in performance.

²⁵ Limit applies at all times when EQUI 10 combusts natural gas and EQUI 1 combusts natural gas; except during startup, shutdown, or malfunction.

²⁶ Limit applies at all times when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas; except during startup, shutdown, or malfunction.

²⁷ Limit applies at all times when EQUI 10 combusts natural gas, or when EQUI 10 and EQUI 1 combust natural gas; except during startup, shutdown, or malfunction.

²⁸ Limit applies at all times when EQUI 10 combusts distillate fuel oil and EQUI 1 is not operating, or when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas; except during startup, shutdown, or malfunction.

²⁹ Limit applies at all times when EQUI 10 combusts natural gas, or when EQUI 10 and EQUI 1 combust natural gas; except during startup, shutdown, or malfunction.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
	PM < 10 micron <= 0.03 pounds per million Btu heat input 3-hour average ³⁰ [Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000]		
	VOC <= 1.5 parts per million 3- hour average by volume on a dry basis @ 15% O ₂ ³¹ VOC <= 3.0 parts per million 3- hour average by volume on a dry basis @ 15% O ₂ ³² VOC <= 3.5 parts per million 3- hour average by volume on a dry basis @ 15% O ₂ ³³ [Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000]	Periodic performance test	The initial performance test demonstrated actual emissions well below (less than 60 percent of) the permitted limits, so tests are required every 5 years (60 months). Periodic testing at worst-case conditions will identify degradation in performance.

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

3.5 Insignificant activities

Faribault Energy Park has several operations which are classified as insignificant activities under the MPCA's permitting rules. These are listed in Appendix A to the permit.

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

³⁰ Limit applies at all times when EQUI 10 combusts distillate fuel oil and EQUI 1 is not operating, or when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas; except during startup, shutdown, or malfunction.

³¹ Limit applies at all times when EQUI 10 combusts natural gas and EQUI 1 is not operating; except during startup, shutdown, or malfunction.

³² Limit applies at all times when EQUI 10 combusts natural gas and EQUI 1 combusts natural gas; except during startup, shutdown, or malfunction.

³³ Limit applies at all times when EQUI 10 is combusting distillate fuel oil and EQUI 1 is not operating, or when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas; except during startup, shutdown, or malfunction.

Table 12. Insignificant activities

Insignificant activity	General applicable emission limit	Discussion
Fuel Use: space heaters fueled by kerosene, natural gas, or propane, less than 420,000 Btu/hr	PM <= 0.60 or 0.40 lb/MMBtu, depending on year constructed Opacity <= 20% with exceptions (Minn. R. 7011.0515)	Based on the fuels used and EPA published emissions factors, it is highly unlikely that it could violate the applicable requirement. In addition, these types of units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)	While laboratory equipment has the potential to emit particulate matter, these activities are those not associated with production, so operation is intermittent and emissions are infrequent. Testing or monitoring is not feasible.
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)	These activities are not associated with production, so operation is intermittent and emissions are infrequent. Testing or monitoring is not feasible.
Blueprint copiers and photographic processes	Opacity <= 20% (Minn. R. 7011.0110)	These units are typically operated and vented inside a building so testing for opacity is not feasible.
Individual units with potential emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)	The emission units in this category at FEP are cooling towers. Due to the nature of the equipment, testing for particulate matter is not feasible. The presence of water vapor interferes with the detection of visual impairment from particulate matter, so testing for opacity is not feasible.
Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)	While spray equipment has the potential to emit particulate matter, these particular activities are those not associated with production, so operation is intermittent and emissions are infrequent. Testing or monitoring is not feasible.
Individual units with potential or actual emissions meeting the criteria in Minn. R. 7007.1300, subp. 4(A)-(D)	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)	This category includes two 325,000 gallon above-ground fixed roof tanks holding distillate fuel oil. The tanks do not emit particulate matter or significant amounts of VOCs, so it is highly unlikely that they could violate the applicable requirements.

3.6 Subject Item Renumbering

Between the issuance of Air Emission Permit No. 13100071-004 and this permit, the MPCA changed the database used in permitting. The change in the database led to a change from labels used in the Delta system (emission unit (EU), stack/vent (SV), and control equipment (CE)) to those used in Tempo (equipment (EQUI), structure (STRU), and treatments (TREA)). Air Emission Permit No. 13100071-101 and the supporting documents reference the Delta numbering. Table 13 illustrates the changes:

Table 13. Subject Item Renumbering

Description	EQUI (Tempo)	EU (Delta)
Duct Burner - 249 mmBtu/hr w/SCR	EQUI 1	EU007
Emergency Generator - 750 kW	EQUI 2	EU003
Combustion Turbine - GE 7FA w/DLN, SCR, Air Attemperation, & Water Injection	EQUI 10	EU001

Description	EQUI (Tempo)	EU (Delta)
Building Services Boiler	EQUI 15	EU008
NO _x Analyzer – 111	EQUI 17	~
CO Analyzer – 121	EQUI 18	~
DAS	EQUI 19	~
Natural Gas Fuel Heater	EQUI 20	EU009
O ₂ Analyzer – 121	EQUI 21	~

Description	STRU (Tempo)	SV (Delta)
Emergency Generator Stack	STRU 3	SV003
Combined Cycle Combustion Turbine/Duct Burner & HRSG Stack	STRU 5	SV001
Building Services Boiler Stack	STRU 6	SV006
Natural Gas Fuel Heater Stack	STRU 7	SV007
Heat Recovery Steam Generator	STRU 8	~
Boiler Feed Pump Enclosure	STRU 9	~
Packaged Electrical Electronic Control Cubicle	STRU 10	~
Interconnection Breaker	STRU 11	~
GSU Transformer West	STRU 12	~
GSU Transformer East	STRU 13	~
Generator Breaker	STRU 14	~
Combustion Turbine Generator	STRU 15	~
Turbine Air Inlet Duct/Silencer	STRU 16	~
Combustion Turbine	STRU 17	~
Cooling Tower	STRU 18	~
Fire Pump House	STRU 19	~
Steam Turbine Building	STRU 20	~
Emergency Generator	STRU 21	~
Fuel Gas Heater	STRU 22	~
Storage	STRU 23	~
Maintenance	STRU 24	~
HRSG MCC	STRU 25	~
Power Distribution Center	STRU 26	~

Description	TREA (Tempo)	CE (Delta)
Selective Catalytic Reduction	TREA 7	CE001
Air Injection	TREA 8	~
Water Injection	TREA 9	~

3.7 Permit organization

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

3.8 Comments received

This section will be completed after the referenced review periods.

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

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

[No c][C]omments were received from the public during the public notice period. [The comments received did [not] include adverse comments on any applicable requirements of the permit. Changes to the permit were [not] made as a result of the comments.

The MPCA sent the revised permit to EPA for its 45-day review on [date]. [No c][C]omments were received from EPA during their review period. [No c][C]hanges to the permit were made as a result of the comments.

4. Permit fee assessment

Since this permit action is solely the reissuance of an individual Part 70, no application fees apply under Minn. R. 7002.0016, subp. 1.

5. Conclusion

Based on the information provided by Faribault Energy Park the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 13100071-101 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff members on permit team: Richard Cordes, P.E. (permit engineer)
Amrill Okonkwo (peer reviewer)
Dan Dietrich (enforcement)
Andy Place (compliance)
Curt Stock (compliance)
Timothy Schwarz (permit writing assistant)
Michaela Leach (permit writing assistant)
Laurie O'Brien (administrative support)

TEMPO360 Activities: Administrative Amendment (IND20120001), Part 70 Reissuance (IND20090001)
Air Project Tracking Number - 2399

Attachments: 1. PTE summary and Calculation spreadsheets
2. Subject Item Details and Requirements Report

Attachment 1 – PTE Summary and Calculation Spreadsheets

Total Facility Emissions

Pollutant (lb/hr)	EQUI 1	EQUI 2	EQUI 10	EQUI 15	EQUI 20	STRU 5
PM	2.49	1.64	52.55	0.10	0.02	55.04
PM ₁₀	2.49	0.98	52.55	0.10	0.02	55.04
PM _{2.5}	2.49	0.98	52.55	0.10	0.02	55.04
SO ₂	0.15	0.03	3.94	0.01	0.00	4.09
NO _x	19.92	56.33	309.95	0.60	0.31	329.87
CO	14.94	12.91	1319.94	0.34	0.26	1334.88
VOC	2.49	1.65	78.91	0.02	0.02	81.40
H ₂ SO ₄	0.02	0.00	0.58	0.00	0.00	0.60
Benzene	5.13E-04	1.32E-02	1.03E-01	8.62E-06	6.59E-06	1.03E-01
Dichlorobenzene	2.93E-04			4.92E-06	3.76E-06	2.93E-04
Ethylbenzene			5.63E-02	1.91E-06		5.63E-02
Formaldehyde	1.83E-02	1.35E-03	1.25E+00	1.45E-03	2.35E-04	1.27E+00
Hexane	4.39E-01			7.39E-03	5.65E-03	4.39E-01
Naphthalene	1.49E-04	2.22E-03	6.52E-02	3.40E-05	1.91E-06	6.54E-02
PAH		1.35E-04	7.46E-02			7.46E-02
POM	1.70E-04			9.94E-05	2.19E-06	1.70E-04
Propylene oxide		4.76E-02	5.10E-02			5.10E-02
Toluene	8.30E-04	4.80E-03	5.16E-01	1.87E-04	1.07E-05	5.17E-01
Xylenes (mixed isomers)		3.29E-03	3.54E-01	3.28E-06		3.54E-01
Arsenic	4.88E-05		2.05E-02	1.67E-05	6.27E-07	2.06E-02
Beryllium	2.93E-06		5.78E-04	1.26E-05	3.76E-08	5.81E-04
Cadmium	2.69E-04		8.95E-03	1.26E-05	3.45E-06	9.22E-03
Chromium	3.42E-04		2.05E-02	1.26E-05	4.39E-06	2.08E-02
Cobalt	2.05E-05			3.45E-07	2.64E-07	2.05E-05
Lead	0.00012		2.61E-02	3.77E-05	1.57E-06	2.62E-02
Manganese	9.28E-05		1.47E+00	2.51E-05	1.19E-06	1.47E+00
Mercury	6.35E-05		2.24E-03	1.26E-05	8.16E-07	2.30E-03
Nickel	5.13E-04		8.57E-03	1.26E-05	6.59E-06	9.09E-03
Selenium	5.86E-06		4.66E-02	6.28E-05	7.53E-08	4.66E-02
Single HAP	4.39E-01	4.76E-02	1.47E+00	7.39E-03	5.65E-03	1.47E+00
Total HAP	4.61E-01	0.0745	3.27	0.0077	0.0059	3.73
CO ₂	29127	2757	301014	676	374	330142
Methane	0.55	0.11	12.33	0.03	0.01	19.38
N ₂ O	0.05	0.02	2.47	0.01	0.00	2.52
CO ₂ e	29157	2766	302057	492	375	331215

Pollutant (tpy)	Total Facility	EQUI 1	EQUI 2	EQUI 10	EQUI 15	EQUI 20	STRU 5
PM	242.0	10.91	0.41	230.2	0.44	0.10	241.1
PM ₁₀	241.9	10.91	0.24	230.2	0.44	0.10	241.1
PM _{2.5}	241.9	10.91	0.24	230.2	0.44	0.10	241.1
SO ₂	17.9	0.64	0.01	17.3	0.03	0.01	17.9
NO _x	330.0	12.30	14.08	252.4	2.64	1.37	311.9
CO	1257.3	65.44	3.23	940.8	1.51	1.15	1251.5
VOC	115.0	10.91	0.41	74.4	0.10	0.08	114.4
H ₂ SO ₄	2.6	0.09	0.00	2.5	0.00	0.00	2.6
1,3-butadiene	1.31E-01			1.31E-01			1.31E-01
Acetaldehyde	3.08E-01		1.08E-04	3.08E-01			3.08E-01
Acrolein	6.35E-02		3.36E-05	6.34E-02			6.34E-02
Benzene	4.55E-01	2.25E-03	3.31E-03	4.49E-01	3.77E-05	2.89E-05	4.51E-01
Dichlorobenzene	1.31E-03	1.28E-03			8.39E-06	1.65E-05	1.28E-03
Ethylbenzene	2.46E-01			2.46E-01	2.16E-05		2.46E-01
Formaldehyde	5.55E+00	8.02E-02	3.37E-04	5.47E+00	6.33E-03	1.03E-03	5.55E+00
Hexane	1.98E+00	1.92E+00			3.23E-02	2.47E-02	1.92E+00
Naphthalene	2.87E-01	6.52E-04	5.55E-04	2.86E-01	1.49E-04	8.38E-06	2.86E-01
PAH	3.27E-01		3.50E-04	3.27E-01			3.27E-01
POM	1.19E-03	7.46E-04			4.35E-04	9.59E-06	7.46E-04
Propylene oxide	2.35E-01		1.19E-02	2.23E-01			2.23E-01
Toluene	2.27E+00	3.64E-03	1.20E-03	2.26E+00	8.18E-04	4.67E-05	2.27E+00
Xylenes (mixed isomers)	1.55E+00		8.24E-04	1.55E+00	1.44E-05		1.55E+00
Arsenic	9.01E-02	2.14E-04		8.98E-02	7.33E-05	2.75E-06	9.00E-02
Beryllium	2.60E-03	1.28E-05		2.53E-03	5.50E-05	1.65E-07	2.54E-03
Cadmium	4.04E-02	1.18E-03		3.92E-02	5.50E-05	1.51E-05	4.04E-02
Chromium	9.14E-02	1.50E-03		8.98E-02	5.50E-05	1.92E-05	9.13E-02
Cobalt	9.25E-05	8.98E-05			1.51E-06	1.15E-06	8.98E-05
Lead	1.15E-01	5.35E-04		1.14E-01	1.65E-04	6.87E-06	1.15E-01
Manganese	6.45E+00	4.06E-04		6.45E+00	1.10E-04	5.22E-06	6.45E+00
Mercury	1.01E-02	2.78E-04		9.80E-03	5.50E-05	3.57E-06	1.01E-02
Nickel	3.99E-02	2.25E-03		3.76E-02	5.50E-05	2.89E-05	3.98E-02
Selenium	2.04E-01	2.57E-05		2.04E-01	2.75E-04	3.30E-07	2.04E-01
Single HAP	6.45E+00	1.92E+00	1.19E-02	6.45E+00	3.23E-02	2.47E-02	6.45E+00
Total HAP	16.41	2.02E+00	0.02	14.31	0.03	0.03	16.33
CO ₂	1451310	127578	689	1318443	2960	1640	1446021
Methane	56.58	2.40	0.03	54.00	0.12	0.03	56.40
N ₂ O	11.07	0.24	0.01	10.80	0.02	0.00	11.04
CO ₂ e	1456024	127709	692	1323011	2970	1641	1450721

Unit emissions summary

EQUI 2

Pollutant	Max emissions (lb/hr)	Unrestricted Potential (tpy)	Limited Potential (tpy)	Actual Emissions (tpy) - [2016]
PM	1.64	7.2	0.4	0.0
PM ₁₀	0.98	4.3	0.2	0.0
PM _{2.5}	0.98	4.3	0.2	0.0
SO ₂	0.03	0.1	0.0	0.0
NO _x	56.33	246.7	14.1	0.2
CO	12.91	56.5	3.2	0.0
VOC	1.65	7.2	0.4	0.0
H ₂ SO ₄	0.00	0.0	0.0	<i>not reported</i>
Benzene	1.32E-02	5.80E-02	3.31E-03	<i>not reported</i>
Formaldehyde	1.35E-03	5.90E-03	3.37E-04	<i>not reported</i>
Toluene	4.80E-03	2.10E-02	1.20E-03	<i>not reported</i>
Xylenes	3.29E-03	1.44E-02	8.24E-04	<i>not reported</i>
Acetaldehyde	4.30E-04	1.88E-03	1.08E-04	<i>not reported</i>
Acrolein	1.35E-04	5.89E-04	3.36E-05	<i>not reported</i>
Naphthalene	2.22E-03	9.72E-03	5.55E-04	<i>not reported</i>
PAH	1.40E-03	6.13E-03	3.50E-04	<i>not reported</i>
Propylene oxide	4.76E-02	2.09E-01	1.19E-02	<i>not reported</i>
Single HAP	0.048	0.209	0.012	<i>not reported</i>
Total HAP	0.074	0.326	0.019	<i>not reported</i>
CO ₂	2757	12074	689	8
Methane	0.11	0.49	0.03	0.00
N ₂ O	0.02	0.10	0.01	0.00
CO ₂ e	2766	12116	692	9

EQUI 15				
Pollutant	Max emissions (lb/hr)	Unrestricted Potential (tpy)	Limited Potential (tpy)	Actual Emissions (tpy) - [2016]
PM	0.10	0.44	0.44	<i>not reported</i>
PM ₁₀	0.10	0.44	0.44	<i>not reported</i>
PM _{2.5}	0.10	0.44	0.44	<i>not reported</i>
SO ₂	0.01	0.03	0.03	<i>not reported</i>
NO _x	0.60	2.64	2.64	<i>not reported</i>
CO	0.34	1.51	1.51	<i>not reported</i>
VOC	0.02	0.10	0.10	<i>not reported</i>
H ₂ SO ₄	0.00	0.00	0.00	<i>not reported</i>
Benzene	8.62E-06	3.77E-05	3.77E-05	<i>not reported</i>
Ethylbenzene	1.91E-06	8.39E-06	8.39E-06	<i>not reported</i>
Dichlorobenzene	4.92E-06	2.16E-05	2.16E-05	<i>not reported</i>
Formaldehyde	1.45E-03	6.33E-03	6.33E-03	<i>not reported</i>
Hexane	7.39E-03	3.23E-02	3.23E-02	<i>not reported</i>
Naphthalene	3.40E-05	1.49E-04	1.49E-04	<i>not reported</i>
POM	9.94E-05	4.35E-04	4.35E-04	<i>not reported</i>
Toluene	1.87E-04	8.18E-04	8.18E-04	<i>not reported</i>
Xylenes	3.28E-06	1.44E-05	1.44E-05	<i>not reported</i>
Arsenic	1.67E-05	7.33E-05	7.33E-05	<i>not reported</i>
Beryllium	1.26E-05	5.50E-05	5.50E-05	<i>not reported</i>
Cadmium	1.26E-05	5.50E-05	5.50E-05	<i>not reported</i>
Chromium	1.26E-05	5.50E-05	5.50E-05	<i>not reported</i>
Cobalt	3.45E-07	1.51E-06	1.51E-06	<i>not reported</i>
Lead	3.77E-05	1.65E-04	1.65E-04	<i>not reported</i>
Manganese	2.51E-05	1.10E-04	1.10E-04	<i>not reported</i>
Mercury	1.26E-05	5.50E-05	5.50E-05	<i>not reported</i>
Nickel	1.26E-05	5.50E-05	5.50E-05	<i>not reported</i>
Selenium	6.28E-05	2.75E-04	2.75E-04	<i>not reported</i>
Single HAP	0.007	0.032	0.032	<i>not reported</i>
Total HAP	0.008	0.034	0.034	<i>not reported</i>
CO ₂	676	2960	2960	<i>not reported</i>
Methane	0.0277	0.1212	0.1212	<i>not reported</i>
N ₂ O	0.0055	0.0242	0.0242	<i>not reported</i>
CO ₂ e	492	2960	2970	<i>not reported</i>

EQUI 20				
Pollutant	Max emissions (lb/hr)	Unrestricted Potential (tpy)	Limited Potential (tpy)	Actual Emissions (tpy) - [2016]
PM	0.02	0.10	0.10	<i>not reported</i>
PM ₁₀	0.02	0.10	0.10	<i>not reported</i>
PM _{2.5}	0.02	0.10	0.10	<i>not reported</i>
SO ₂	0.00	0.01	0.01	<i>not reported</i>
NO _x	0.31	1.37	1.37	<i>not reported</i>
CO	0.26	1.15	1.15	<i>not reported</i>
VOC	0.02	0.08	0.08	<i>not reported</i>
H ₂ SO ₄	0.00	0.00	0.00	<i>not reported</i>
Benzene	6.58824E-06	2.88565E-05	2.88565E-05	<i>not reported</i>
Dichlorobenzene	3.76471E-06	1.64894E-05	1.64894E-05	<i>not reported</i>
Formaldehyde	2.35294E-04	1.03059E-03	1.03059E-03	<i>not reported</i>
Hexane	5.64706E-03	2.47341E-02	2.47341E-02	<i>not reported</i>
Naphthalene	1.91373E-06	8.38212E-06	8.38212E-06	<i>not reported</i>
POM	2.19043E-06	9.59409E-06	9.59409E-06	<i>not reported</i>
Toluene	1.06667E-05	4.67200E-05	4.67200E-05	<i>not reported</i>
Arsenic	6.27451E-07	2.74824E-06	2.74824E-06	<i>not reported</i>
Beryllium	3.76471E-08	1.64894E-07	1.64894E-07	<i>not reported</i>
Cadmium	3.45098E-06	1.51153E-05	1.51153E-05	<i>not reported</i>
Chromium	4.39216E-06	1.92376E-05	1.92376E-05	<i>not reported</i>
Cobalt	2.63529E-07	1.15426E-06	1.15426E-06	<i>not reported</i>
Lead	1.56863E-06	6.87059E-06	6.87059E-06	<i>not reported</i>
Manganese	1.19216E-06	5.22165E-06	5.22165E-06	<i>not reported</i>
Mercury	8.15686E-07	3.57271E-06	3.57271E-06	<i>not reported</i>
Nickel	6.58824E-06	2.88565E-05	2.88565E-05	<i>not reported</i>
Selenium	7.52941E-08	3.29788E-07	3.29788E-07	<i>not reported</i>
Single HAP	0.006	0.025	0.025	<i>not reported</i>
Total HAP	0.006	0.026	0.026	<i>not reported</i>
CO ₂	374	1640	1640	<i>not reported</i>
Methane	0.01	0.03	0.03	<i>not reported</i>
N ₂ O	0.00	0.00	0.00	<i>not reported</i>
CO ₂ e	375	1641	1641	<i>not reported</i>

STRU 5 (includes emissions from EQUI 1 and EQUI 10)				
Pollutant	Max emissions (lb/hr)	Unrestricted Potential (tpy)	Limited Potential (tpy)	Actual Emissions (tpy) - [2016]
PM	55.0	241.1	241.1	2.2
PM ₁₀	55.0	241.1	241.1	7.1
PM _{2.5}	55.0	241.1	241.1	5.1
SO ₂	4.1	17.9	17.9	1.4
NO _x	329.9	1444.8	311.9	33.0
CO	1334.9	458.9	1251.5	43.3
VOC	81.4	74.0	114.4	0.4
H ₂ SO ₄	0.6	2.6	2.6	<i>not reported</i>
1,3-butadiene	2.98E-02	1.31E-01	1.31E-01	<i>not reported</i>
Acetaldehyde	7.03E-02	3.08E-01	3.08E-01	<i>not reported</i>
Acrolein	1.45E-02	6.34E-02	6.34E-02	<i>not reported</i>
Benzene	1.03E-01	4.51E-01	4.51E-01	<i>not reported</i>
Dichlorobenzene	2.93E-04	1.28E-03	1.28E-03	<i>not reported</i>
Ethylbenzene	5.63E-02	2.46E-01	2.46E-01	<i>not reported</i>
Formaldehyde	1.27E+00	5.55E+00	5.55E+00	<i>not reported</i>
Hexane	4.39E-01	1.92E+00	1.92E+00	<i>not reported</i>
Naphthalene	6.54E-02	2.86E-01	2.86E-01	<i>not reported</i>
PAH	7.46E-02	3.27E-01	3.27E-01	<i>not reported</i>
POM	1.70E-04	7.46E-04	7.46E-04	<i>not reported</i>
Propylene oxide	5.10E-02	2.23E-01	2.23E-01	<i>not reported</i>
Toluene	5.17E-01	2.27E+00	2.27E+00	<i>not reported</i>
Xylenes	3.54E-01	1.55E+00	1.55E+00	<i>not reported</i>
Arsenic	2.06E-02	9.00E-02	9.00E-02	<i>not reported</i>
Beryllium	5.81E-04	2.54E-03	2.54E-03	<i>not reported</i>
Cadmium	9.22E-03	4.04E-02	4.04E-02	<i>not reported</i>
Chromium	2.08E-02	9.13E-02	9.13E-02	<i>not reported</i>
Cobalt	2.05E-05	8.98E-05	8.98E-05	<i>not reported</i>
Lead	2.62E-02	1.15E-01	1.15E-01	<i>not reported</i>
Manganese	1.47E+00	6.45E+00	6.45E+00	<i>not reported</i>
Mercury	2.30E-03	1.01E-02	1.01E-02	1.50E-06
Nickel	9.09E-03	3.98E-02	3.98E-02	<i>not reported</i>
Selenium	4.66E-02	2.04E-01	2.04E-01	<i>not reported</i>
Single HAP	1.473	6.450	6.450	<i>not reported</i>
Total HAP	3.728	16.327	16.327	<i>not reported</i>
CO ₂	330142	1446021	1446021	267623
Methane	12.88	56.40	56.40	5.00
N ₂ O	2.52	11.04	11.04	0.50
CO ₂ e	331215	1450721	1450721	267898

Duct burner

Vendor emission factors [lb/MMBtu]

Pollutant	Natural gas
PM	0.010
PM ₁₀	0.010
NO _x	0.080
CO	0.060
VOC	0.010

	249	mmBtu/hr NG	0.24412	mmcf/hr
Natural Gas Emissions	95.1	mmBtu/hr fuel oil	684	gal/hr
			1020	Btu/cf

Pollutant	NG Emission Factor lb/mmcf	Unl emissions lb/hr	Unl emissions tpy	Cont Eff	Controlled emissions tpy	Source
PM	10.2	2.49	10.9		10.9	Vendor
PM ₁₀	10.2	2.49	10.9		10.9	Vendor
SO ₂	0.6	0.15	0.6		0.6	Table 1.4-2
NO _x	81.6	19.92	87.2	86%	12.3	Vendor
CO	61.2	14.94	65.4		65.4	Vendor
VOC	10.2	2.49	10.9		10.9	Vendor
H ₂ SO ₄	8.76E-02	0.02	0.1		0.1	*
Benzene	2.10E-03	5.13E-04	2.25E-03		2.25E-03	Table 1.4-3
Dichlorobenzene	1.20E-03	2.93E-04	1.28E-03		1.28E-03	Table 1.4-3
Formaldehyde	7.50E-02	1.83E-02	8.02E-02		8.02E-02	Table 1.4-3
Hexane	1.80E+00	4.39E-01	1.92E+00		1.92E+00	Table 1.4-3
Naphthalene	6.10E-04	1.49E-04	6.52E-04		6.52E-04	Table 1.4-3
POM	6.98E-04	1.70E-04	7.46E-04		7.46E-04	Table 1.4-3
Toluene	3.40E-03	8.30E-04	3.64E-03		3.64E-03	Table 1.4-3
Arsenic	2.00E-04	4.88E-05	2.14E-04		2.14E-04	Table 1.4-4
Beryllium	1.20E-05	2.93E-06	1.28E-05		1.28E-05	Table 1.4-4
Cadmium	1.10E-03	2.69E-04	1.18E-03		1.18E-03	Table 1.4-4
Chromium	1.40E-03	3.42E-04	1.50E-03		1.50E-03	Table 1.4-4
Cobalt	8.40E-05	2.05E-05	8.98E-05		8.98E-05	Table 1.4-4
Lead	5.00E-04	0.00012	5.35E-04		5.35E-04	Table 1.4-2
Manganese	3.80E-04	9.28E-05	4.06E-04		4.06E-04	Table 1.4-4
Mercury	2.60E-04	6.35E-05	2.78E-04		2.78E-04	Table 1.4-4
Nickel	2.10E-03	5.13E-04	2.25E-03		2.25E-03	Table 1.4-4
Selenium	2.40E-05	5.86E-06	2.57E-05		2.57E-05	Table 1.4-4
Single HAP		4.39E-01	1.92E+00		1.92E+00	
Total HAP		4.61E-01	2.02E+00		2.02E+00	
CO ₂	117	29127	127578		127578	Table C-1
Methane	0.00220	0.55	2.40		2.40	Table C-2
N ₂ O	0.00022	0.05	0.24		0.24	Table C-2
CO ₂ e		29157	127709		127709	Table A-1

PM, PM10, CO, VOC, NOx factors from vendor

All other criteria and HAP emission factors from AP-42 tables 1.4-2, 1.4-3, and 1.4-4

POM determined by summing all POM factors in AP-42 table 1.4-3 (including naphthalene)

Total HAP doesn't include naphthalene to avoid double-counting

H₂SO₄ is 14.6% of SO₂ due to oxidation of some SO₂ to SO₃ in the SCR and 5% of SO_x is SO₃

Emissions factors for GHGs derived from 40 CFR Part 98

Emergency Generator

1750 kW diesel generator

2347 hp

17.07 mmBtu/hr

sulfur content % by wt = 0.0015

Pollutant	FO Emission Factor lb/hp-hr	Max rate lb/hr	PTE TPY	Limited TPY [500 hr/yr]	Source
PM	0.0007	1.64	7.20	0.41	Table 3.4-1
PM10	0.0573	0.98	4.28	0.24	Table 3.4-2
SO2	0.000012135	0.03	0.12	0.01	Table 3.4-1 (S=15 ppm)
NOx	0.024	56.33	246.72	14.08	Table 3.4-1 (uncontrolled)
CO	0.0055	12.91	56.54	3.23	Table 3.4-1
VOC	0.000705	1.65	7.25	0.41	Table 3.4-1
H ₂ SO ₄ (5% of SO ₂)	6.07E-07	0.00	0.01	0.00	
Benzene	7.76E-04	1.32E-02	0.058	3.31E-03	Table 3.4-3
Formaldehyde	7.89E-05	1.35E-03	0.006	3.37E-04	Table 3.4-3
Toluene	2.81E-04	4.80E-03	0.021	1.20E-03	Table 3.4-3
Xylenes	1.93E-04	3.29E-03	0.014	8.24E-04	Table 3.4-3
Acetaldehyde	2.52E-05	4.30E-04	0.002	1.08E-04	Table 3.4-3
Acrolein	7.88E-06	1.35E-04	0.001	3.36E-05	Table 3.4-3
PAH (except naphthalene)	8.20E-05	1.40E-03	0.006	3.50E-04	Table 3.4-4
Naphthalene	1.30E-04	2.22E-03	0.010	5.55E-04	Table 3.4-4
Propylene oxide	2.79E-03	4.76E-02	0.209	1.19E-02	Table 3.4-3
Single HAP		4.76E-02	0.209	1.19E-02	
Total HAP		7.45E-02	0.326	1.86E-02	
	<i>lb/MMBtu</i>				
CO2	161	2757	12074	689	Table C-1
Methane	0.01	0.11	0.49	0.03	Table C-2
N2O	0.00	0.02	0.10	0.01	Table C-2
CO2e		2766	12116	692	Table A-1

All criteria and HAP emission factors from AP-42 ch 3.4

Combined Cycle Combustion Turbine (GE Frame 7FA)

Natural Gas (Normal operation)

Pollutant	NG Emission Factor lb/mmBtu	Unl emissions lb/hr	Unl emissions tpy	Control efficiency	Controlled emissions tpy	Source
PM	0.010	17.58	77.0		77.0	Vendor
PM ₁₀	0.010	17.58	77.0		77.0	Vendor
SO ₂	0.00224	3.94	17.3		17.3	Mass balance
NO _x	0.0336	59.11	258.9	66.67%	86.3	Vendor
CO	0.01705	29.98	131.3		131.3	Vendor
VOC	0.00377	6.63	29.0		29.0	Vendor
H ₂ SO ₄ (14.6% of SO ₂)	3.27E-04	0.58	2.5		2.5	
1,3-Butadiene	4.30E-07	7.56E-04	3.31E-03		3.31E-03	Table 3.1-3
Acetaldehyde	4.00E-05	7.03E-02	3.08E-01		3.08E-01	Table 3.1-3
Acrolein	6.40E-06	1.13E-02	4.93E-02		4.93E-02	Table 3.1-3
Benzene	1.20E-05	2.11E-02	9.24E-02		9.24E-02	Table 3.1-3
Ethylbenzene	3.20E-05	5.63E-02	2.46E-01		2.46E-01	Table 3.1-3
Formaldehyde	7.10E-04	1.25E+00	5.47E+00		5.47E+00	Table 3.1-3
Naphthalene	1.30E-06	2.29E-03	1.00E-02		1.00E-02	Table 3.1-3
PAH	2.20E-06	3.87E-03	1.69E-02		1.69E-02	Table 3.1-3
Propylene oxide	2.90E-05	5.10E-02	2.23E-01		2.23E-01	Table 3.1-3
Toluene	1.30E-04	2.29E-01	1.00E+00		1.00E+00	Table 3.1-3
Xylenes (mixed isomers)	6.40E-05	1.13E-01	4.93E-01		4.93E-01	Table 3.1-3
Single HAP NG		1.25E+00	5.47E+00		5.47E+00	
Total HAP NG		1.81	7.91		7.91	
CO ₂	116.98	205646	900729		900729	Table C-1
Methane	2.20E-03	3.88	16.98		16.98	Table C-2
N ₂ O	2.20E-04	0.39	1.70		1.70	Table C-2
CO ₂ e		205858	901659		901659	Table A-1

Max emission rate at 100% load @44F (1758 mmBtu/hr)

H₂SO₄ is 14.6% of SO₂ due to oxidation of some SO₂ to SO₃ in the SCR and 5% of SO_x is SO₃

Emissions factors for HAPs from AP-42 and 2004 NEI; PM/PM₁₀, NO_x, CO, and VOC derived from manufacturer's data

Emissions factors for GHGs from 40 CFR Part 98

Natural Gas Startup/Shutdown @ 44F 853 mmBtu/hr (HHV; approx 48% load)

Pollutant	NG Emission Factor lb/mmBtu	lb/hr 48% load @ 44F	tpy [1255 hr/yr]	Source
PM	0.021	17.58	11.0	Vendor
PM ₁₀	0.021	17.58	11.0	Vendor
SO ₂	0.00224	1.91	1.2	Mass balance
NO _x	0.140	119.60	75.0	Vendor
CO	1.547	1319.94	828.3	Vendor
VOC	0.093	78.91	49.5	Vendor
H ₂ SO ₄ (5% of SO ₂)	1.12E-04	0.10	0.1	
1,3-Butadiene	4.30E-07	3.67E-04	2.30E-04	Table 3.1-3
Acetaldehyde	4.00E-05	3.41E-02	2.14E-02	Table 3.1-3
Acrolein	6.40E-06	5.46E-03	3.43E-03	Table 3.1-3
Benzene	1.20E-05	1.02E-02	6.42E-03	Table 3.1-3
Ethylbenzene	3.20E-05	2.73E-02	1.71E-02	Table 3.1-3
Formaldehyde	7.10E-04	6.06E-01	3.80E-01	Table 3.1-3
Naphthalene	1.30E-06	1.11E-03	6.96E-04	Table 3.1-3
PAH	9.00E-07	7.68E-04	4.82E-04	Table 3.1-3
Propylene oxide	2.90E-05	2.47E-02	1.55E-02	Table 3.1-3
Toluene	1.30E-04	1.11E-01	6.96E-02	Table 3.1-3
Xylenes (mixed isomers)	6.40E-05	5.46E-02	3.43E-02	Table 3.1-3
Single HAP NG SUSD		6.06E-01	3.80E-01	
Total HAP NG SUSD		0.88	0.55	
CO ₂	116.98	99781	62613	Table C-1
Methane	2.20E-03	1.88	1.18	Table C-2
N ₂ O	2.20E-04	0.19	0.12	Table C-2
CO ₂ e		99885	62678	Table A-1

H₂SO₄: 5% of uncontrolled SO_x is SO₃

Emissions factors for HAPs from AP-42 and 2004 NEI; PM/PM₁₀, NO_x, CO, and VOC are from Air Emission Permit No. 13100071-002 which we

Emissions factors for GHGs from 40 CFR Part 98

Distillate Fuel Oil (Normal operation)

Pollutant	FO Emission Factor lb/mmBtu	Unl emissions lb/hr	Unl emissions tpy	Control efficiency	Controlled emissions tpy	Source
PM	0.028	52.5	230.2		230.2	Vendor
PM ₁₀	0.028	52.5	230.2		230.2	Vendor
SO ₂	0.0015	2.8	12.4		12.4	Mass balance
NO _x	0.1663	309.9	1357.6	85.7%	193.9	Vendor
CO	0.048	89.8	393.5		393.5	Vendor
VOC	0.008	14.4	63.1		63.1	Vendor
H ₂ SO ₄ (14.6% of SO ₂)	2.22E-04	0.4	1.8		1.8	
1,3-Butadiene	1.60E-05	2.98E-02	1.31E-01		1.31E-01	Table 3.1-4
Acetaldehyde	2.48E-05	4.62E-02	2.02E-01		2.02E-01	2004 NEI
Acrolein	7.77E-06	1.45E-02	6.34E-02		6.34E-02	2004 NEI
Benzene	5.50E-05	1.03E-01	4.49E-01		4.49E-01	Table 3.1-4
Formaldehyde	2.80E-04	5.22E-01	2.29E+00		2.29E+00	Table 3.1-4
Naphthalene	3.50E-05	6.52E-02	2.86E-01		2.86E-01	Table 3.1-4
PAH	4.00E-05	7.46E-02	3.27E-01		3.27E-01	Table 3.1-4
Toluene	2.77E-04	5.16E-01	2.26E+00		2.26E+00	2004 NEI
Xylene	1.90E-04	3.54E-01	1.55E+00		1.55E+00	2004 NEI
Arsenic	1.10E-05	2.05E-02	8.98E-02		8.98E-02	Table 3.1-5
Beryllium	3.10E-07	5.78E-04	2.53E-03		2.53E-03	Table 3.1-5
Cadmium	4.80E-06	8.95E-03	3.92E-02		3.92E-02	Table 3.1-5
Chromium	1.10E-05	2.05E-02	8.98E-02		8.98E-02	Table 3.1-5
Lead	1.40E-05	2.61E-02	1.14E-01		1.14E-01	Table 3.1-5
Manganese	7.90E-04	1.47E+00	6.45E+00		6.45E+00	Table 3.1-5
Mercury	1.20E-06	2.24E-03	9.80E-03		9.80E-03	Table 3.1-5
Nickel	4.60E-06	8.57E-03	3.76E-02		3.76E-02	Table 3.1-5
Selenium	2.50E-05	4.66E-02	2.04E-01		2.04E-01	Table 3.1-5
Single HAP Distillate		1.47E+00	6.45E+00		6.45E+00	
Total HAP Distillate		3.3	14.3		14.3	
CO ₂	161	301014	1318443		1318443	Table C-1
Methane	0.0	12.3	54.0		54.0	Table C-2
N ₂ O	0.0	2.5	10.8		10.8	Table C-2
CO ₂ e	162	302057	1323011		1323011	Table A-1

Max emission rate at 100% load @ 44F (1864 mmBtu/hr)

Facility-wide SO₂ emissions limited to 132 tpy

H₂SO₄ is 14.6% of SO₂ due to oxidation of some SO₂ to SO₃ in the SCR

Emissions factors for HAPs from AP-42 and 2004 NEI; PM/PM₁₀, NO_x, CO, and VOC derived from manufacturer's data

Emissions factors for GHGs from 40 CFR Part 98

Distillate Oil Startup/Shutdown @44F 887 mmBtu/hr (HHV; approx 48% load at 44F)

Pollutant	FO Emission Factor lb/mmBtu	Max emissions lb/hr	tpy [485 hr/yr]	Source
PM	0.059	52.55	12.7	Vendor
PM ₁₀	0.059	52.55	12.7	Vendor
SO ₂	0.00152	1.35	0.3	Mass balance
NO _x	0.322	285.20	69.2	Vendor
CO	0.197	174.90	42.4	Vendor
VOC	0.012	10.70	2.6	Vendor
H ₂ SO ₄ (5% of SO ₂)	7.60E-05	0.07	0.0	
1,3-Butadiene	1.60E-05	1.42E-02	3.44E-03	Table 3.1-4
Acetaldehyde	2.48E-05	2.20E-02	5.33E-03	2004 NEI
Acrolein	7.77E-06	6.89E-03	1.67E-03	2004 NEI
Benzene	5.50E-05	4.88E-02	1.18E-02	Table 3.1-4
Formaldehyde	2.80E-04	2.48E-01	6.02E-02	Table 3.1-4
Naphthalene	3.50E-05	3.10E-02	7.53E-03	Table 3.1-4
PAH	4.00E-05	3.55E-02	8.60E-03	Table 3.1-4
Toluene	2.77E-04	2.46E-01	5.96E-02	2004 NEI
Xylene	1.90E-04	1.69E-01	4.09E-02	2004 NEI
Arsenic	1.10E-05	9.76E-03	2.37E-03	Table 3.1-5
Beryllium	3.10E-07	2.75E-04	6.67E-05	Table 3.1-5
Cadmium	4.80E-06	4.26E-03	1.03E-03	Table 3.1-5
Chromium	1.10E-05	9.76E-03	2.37E-03	Table 3.1-5
Lead	1.40E-05	1.24E-02	3.01E-03	Table 3.1-5
Manganese	7.90E-04	7.01E-01	1.70E-01	Table 3.1-5
Mercury	1.20E-06	1.06E-03	2.58E-04	Table 3.1-5
Nickel	4.60E-06	4.08E-03	9.89E-04	Table 3.1-5
Selenium	2.50E-05	2.22E-02	5.38E-03	Table 3.1-5
Single HAP Oil SUSD		7.01E-01	1.70E-01	
Total HAP Oil SUSD		1.59E+00	3.84E-01	
CO ₂	161	143240	34736	Table C-1
Methane	6.61E-03	5.87	1.42	Table C-2
N ₂ O	1.32E-03	1.17	0.28	Table C-2
CO ₂ e		143737	34856	Table A-1

Emissions factors for HAPs from AP-42 and 2004 NEI; PM/PM₁₀ derived from manufacturer's data;NO_x, CO, and VOC from Air Emission Permit No. 13100071-002 that used data from similar project with GE 7FA simple cycle gas turbineH₂SO₄: 5% of uncontrolled SO_x is SO₃

Emissions factors for GHGs from 40 CFR Part 98

Worst Case Emissions

Pollutant	worst case lb/hr	worst case fuel	unlimited PTE tpy	worst case fuel	limited PTE tpy	worst case fuel
PM	52.55	FO	230.2	FO	230.2	FO
PM ₁₀	52.55	FO	230.2	FO	230.2	FO
SO ₂	3.94	FO	17.3	FO	17.3	FO
NO _x	309.95	FO	1357.6	FO	252.4	FO SUSD
CO	1319.94	NG SUSD	940.8	NG SUSD	940.8	NG SUSD
VOC	78.91	NG SUSD	74.4	NG SUSD	74.4	NG SUSD
H ₂ SO ₄	0.58	FO	2.5	FO	2.5	FO
1,3-Butadiene	2.98E-02	FO	1.31E-01	FO	1.31E-01	FO
Acetaldehyde	7.03E-02	NG	3.08E-01	NG	3.08E-01	NG
Acrolein	1.45E-02	FO	6.34E-02	FO	6.34E-02	FO
Benzene	1.03E-01	FO	4.49E-01	FO	4.49E-01	FO
Ethylbenzene	5.63E-02	NG	2.46E-01	NG	2.46E-01	NG
Formaldehyde	1.25E+00	NG	5.47E+00	NG	5.47E+00	NG
Naphthalene	6.52E-02	FO	2.86E-01	FO	2.86E-01	FO
PAH	7.46E-02	FO	3.27E-01	FO	3.27E-01	FO
Propylene Oxide	5.10E-02	NG	2.23E-01	NG	2.23E-01	NG
Toluene	5.16E-01	FO	2.26E+00	FO	2.26E+00	FO
Xylene	3.54E-01	FO	4.93E-01	FO	1.55E+00	FO
Arsenic	2.05E-02	FO	8.98E-02	FO	8.98E-02	FO
Beryllium	5.78E-04	FO	2.53E-03	FO	2.53E-03	FO
Cadmium	8.95E-03	FO	3.92E-02	FO	3.92E-02	FO
Chromium	2.05E-02	FO	8.98E-02	FO	8.98E-02	FO
Lead	2.61E-02	FO	1.14E-01	FO	1.14E-01	FO
Manganese	1.47E+00	FO	6.45E+00	FO	6.45E+00	FO
Mercury	2.24E-03	FO	9.80E-03	FO	9.80E-03	FO
Nickel	8.57E-03	FO	3.76E-02	FO	3.76E-02	FO
Selenium	4.66E-02	FO	2.04E-01	FO	2.04E-01	FO
Single HAP	1.47E+00	FO	6.45E+00	FO	6.45E+00	FO
Total HAP	3.27	FO	14.31	FO	14.31	FO
CO ₂	301014	FO	1318443	FO	1318443	FO
Methane	12.33	FO	54.00	FO	54.00	FO
N ₂ O	2.47	FO	10.80	FO	10.80	FO
CO ₂ e	302057	FO	1323011	FO	1323011	FO

GE CT NG @44F heat input capacity is	1758	mmBtu/hr or	1.72353	mmcf/hr
GE CT OIL @44F heat input capacity is	1864	mmBtu/hr or	13410	gal/hr

AP-42 Appendix A NG density is	1	pound per	23.8	cf
which equals	4.20	pound per	100	scf

controlled NO _x =	19.70	lb/hr at	66.67%
uncontrolled NO _x =	59.11	lb/hr	
uncontrolled NO _x =	0.03362	lb/mmBtu	at 44F 100% load
0.0026 %S by wt =	0.00214	lb/mmBtu	
0.8 grains S per	100 scf =	0.00224	lb/mmBtu @ 1020 Btu/cf

controlled NO_x tpy is **19.70 lb/hr** (3.0 ppmvd) controlled emissions @8760 hr/yr

distillate fuel oil	7.05	lb/gal
HHV	139000	Btu/gal
molar ratio of SO ₂ /S =	2.00	
sulfur content by wt of 0.0015%	is equivalent to	0.00152 lb/mmBtu

controlled NO_x tpy is **44.28 lb/hr** (6.0 ppmvd) controlled emissions @8760 hr/yr

Combined Cycle Combustion Turbine
 NO_x Emissions

Based on the fuel factor (Method 19):

Equipment	NOx ppmvd	O2 %	HI MMBtu/hr	Calc. NOx lb/MMBtu	Calc. NOx lb/hr
CT-1/DB-1					
EU-001 NG	3	15	1758	0.011	19.43
EU-001 OIL	6	15	1864	0.023	43.47
TOTAL					62.9

NOTES:

1. NOx emission rate in lb/MMBtu calculated as follows using equation 19-1 of EPA Method 19 in 40CFR60, Appendix A:

$$\text{NG NOx (lb/MMBtu)} = \text{NOx (ppm)} \times 1.194 \times 10^{-7} \text{ lb/scf/ppm} \times 8710 \text{ dscf/MMBtu} \times 20.9 / (20.9 - \text{O}_2\%)$$

$$\text{OIL NOx (lb/MMBtu)} = \text{NOx (ppm)} \times 1.194 \times 10^{-7} \text{ lb/scf/ppm} \times 9190 \text{ dscf/MMBtu} \times 20.9 / (20.9 - \text{O}_2\%)$$

Fd NG =	8710	dscf/MMBtu
Fd OIL =	9190	dscf/MMBtu

2. Emission rate in lb/hr calculated as follows for all parameters:

$$\text{ER (lb/hr)} = \text{ER (lb/MMBtu)} \times \text{HI (MMBtu/hr)}$$

3. NOx ppmvd @15%O2 BACT concentrations specified in the air permit.

Based on manufacturers stack flow data:

Equipment	NOx ppmvd	O2 %	HI MMBtu/hr	Calc. NOx lb/MMBtu	Calc. NOx lb/hr
CT-1/DB-1					
EU-001 NG	3.6	13.8	1758	45816867	19.70
EU-001 OIL	8.27	12.73	1864	44805001	44.26
TOTAL					64.0

Stack flow (dscf/hr) x (NOx uncorrected ppmvd) / 10⁶ / (Molar volume at 1 atm and 60oF) x NO2 MW

Molar Volume at 1 atm and 68oF - 385.1 cf/mole

NO2 MW = 46 lb/lbmol

$$PV = nRT$$

$$T = 68 \text{ oF}$$

$$R = 10.73 \text{ psi-ft}^3 / (\text{lbmol-}^\circ\text{R})$$

$$P = 14.7 \text{ psia}$$

$$V = 385.4040816 \text{ cf/mole}$$

Building Services Boiler

Natural Gas Emissions

1020 Btu/cf

4.185 mmBtu/hr

Pollutant	NG Emission Factor lb/MMcf	Max Emissions lb/hr	Max Emissions tpy	Controlled emissions tpy	Source
PM	7.6	0.03	0.14	0.14	Table 1.4-2
PM10	7.6	0.03	0.14	0.14	Table 1.4-2
SO2	0.6	0.00	0.01	0.01	Table 1.4-2
NOx	100	0.41	1.80	1.80	Table 1.4-1 (unc)
CO	84	0.34	1.51	1.51	Table 1.4-1 (unc)
VOC	5.5	0.02	0.10	0.10	Table 1.4-2
H ₂ SO ₄	0.03	1.23E-04	0.001	0.001	
Benzene	2.10E-03	8.62E-06	3.77E-05	3.77E-05	Table 1.4-3
Dichlorobenzene	1.20E-03	4.92E-06	2.16E-05	2.16E-05	Table 1.4-3
Formaldehyde	7.50E-02	3.08E-04	1.35E-03	1.35E-03	Table 1.4-3
Hexane	1.80E+00	7.39E-03	3.23E-02	3.23E-02	Table 1.4-3
Naphthalene	6.10E-04	2.50E-06	1.10E-05	1.10E-05	Table 1.4-3
POM	6.98E-04	2.86E-06	1.25E-05	1.25E-05	
Toluene	3.40E-03	1.40E-05	6.11E-05	6.11E-05	Table 1.4-3
Arsenic	2.00E-04	8.21E-07	3.59E-06	3.59E-06	Table 1.4-4
Beryllium	1.20E-05	4.92E-08	2.16E-07	2.16E-07	Table 1.4-4
Cadmium	1.10E-03	4.51E-06	1.98E-05	1.98E-05	Table 1.4-4
Chromium	1.40E-03	5.74E-06	2.52E-05	2.52E-05	Table 1.4-4
Cobalt	8.40E-05	3.45E-07	1.51E-06	1.51E-06	Table 1.4-4
Lead	5.00E-04	2.05E-06	8.99E-06	8.99E-06	Table 1.4-4
Manganese	3.80E-04	1.56E-06	6.83E-06	6.83E-06	Table 1.4-4
Mercury	2.60E-04	1.07E-06	4.67E-06	4.67E-06	Table 1.4-4
Nickel	2.10E-03	8.62E-06	3.77E-05	3.77E-05	Table 1.4-4
Selenium	2.40E-05	9.85E-08	4.31E-07	4.31E-07	Table 1.4-4
Single HAP		7.39E-03	3.23E-02	3.23E-02	
Total HAP		0.0077	0.0339	0.0339	
CO2	119317	490	2144	2144	Table C-1
Methane	6.75	0.0277	0.1212	0.1212	Table C-2
N2O	1.35	0.0055	0.0242	0.0242	Table C-2
CO2e		492	2154	2154	Table A-1

EQUI 15 has no controls

All criteria and HAP emission factors from AP-42 ch 1.4

POM determined by summing all POM species factors in AP-42 table 1.4-3 including naphthalene;

Total HAP does not include naphthalene to avoid double counting

Emissions factors for GHGs derived from 40 CFR Part 98

No. 2 Distillate Oil emissions

139,000 Btu/gal

fuel oil sulfur content

0.0015%

Pollutant	FO emission factor lb/mgal	Max Emissions lb/hr	Max Emissions tpy	Controlled emissions tpy	Source
PM	3.3	0.10	0.44	0.44	Tables 1.3-1 & 1.3-2
PM10	3.3	0.10	0.44	0.44	Tables 1.3-1 & 1.3-2
SO2	0.213	0.01	0.03	0.03	Table 1.3-1 (S=15 ppm)
NOx	20	0.60	2.64	2.64	Table 1.3-1
CO	5	0.15	0.66	0.66	Table 1.3-1
VOC	0.2	0.01	0.03	0.03	Table 1.3-3 (ind boilers, distillate)
H ₂ SO ₄	0.011	0.00	0.00	0.00	Section 1.3.3.2 (5%)
CO2	164718	676	2960	2960	Table C-1
Methane	6.75	0.028	0.121	0.121	Table C-2
N2O	1.35	0.006	0.024	0.024	Table C-2
CO2e		678	2970	2970	Table A-1
Benzene	2.14E-04	6.44E-06	2.82E-05	2.82E-05	Table 1.3-9
Ethylbenzene	6.36E-05	1.91E-06	8.39E-06	8.39E-06	Table 1.3-9
Formaldehyde	4.80E-02	1.45E-03	6.33E-03	6.33E-03	Table 1.3-8 (distillate, average)
Naphthalene	1.13E-03	3.40E-05	1.49E-04	1.49E-04	Table 1.3-9
POM	3.30E-03	9.94E-05	4.35E-04	4.35E-04	Table 1.3-8 (distillate)
Toluene	6.20E-03	1.87E-04	8.18E-04	8.18E-04	Table 1.3-9
Xylenes	1.09E-04	3.28E-06	1.44E-05	1.44E-05	Table 1.3-9
	<i>lb/10⁶ mmBtu</i>				
Arsenic	4.00E+00	1.67E-05	7.33E-05	7.33E-05	Table 1.3-10
Beryllium	3.00E+00	1.26E-05	5.50E-05	5.50E-05	Table 1.3-10
Cadmium	3.00E+00	1.26E-05	5.50E-05	5.50E-05	Table 1.3-10
Chromium	3.00E+00	1.26E-05	5.50E-05	5.50E-05	Table 1.3-10
Cobalt					
Lead	9.00E+00	3.77E-05	1.65E-04	1.65E-04	Table 1.3-10
Manganese	6.00E+00	2.51E-05	1.10E-04	1.10E-04	Table 1.3-10
Mercury	3.00E+00	1.26E-05	5.50E-05	5.50E-05	Table 1.3-10
Nickel	3.00E+00	1.26E-05	5.50E-05	5.50E-05	Table 1.3-10
Selenium	1.50E+01	6.28E-05	2.75E-04	2.75E-04	Table 1.3-10
Single HAP		1.45E-03	6.33E-03	6.33E-03	
Total HAP		0.0020	0.0087	0.0087	

EQUI 15 has no controls

Criteria and HAP emission factors from AP-42 chapter 1.3

Emissions factors for GHGs derived from 40 CFR Part 98

Maximum EQUI 15 emissions

Pollutant	worst case lb/hr	Max emissions tpy	Controlled emissions tpy	worst case fuel
PM	0.10	0.44	0.44	distillate
PM10	0.10	0.44	0.44	distillate
SO2	0.01	0.03	0.03	distillate
NOx	0.60	2.64	2.64	distillate
CO	0.34	1.51	1.51	natural gas
VOC	0.02	0.10	0.10	natural gas
H ₂ SO ₄	0.00	0.00	0.00	distillate
Benzene	8.62E-06	3.77E-05	3.77E-05	natural gas
Ethylbenzene	1.91E-06	8.39E-06	8.39E-06	distillate
Dichlorobenzene	4.92E-06	2.16E-05	2.16E-05	natural gas
Formaldehyde	1.45E-03	6.33E-03	6.33E-03	distillate
Hexane	7.39E-03	3.23E-02	3.23E-02	natural gas
Naphthalene	3.40E-05	1.49E-04	1.49E-04	distillate
POM	9.94E-05	4.35E-04	4.35E-04	distillate
Toluene	1.87E-04	8.18E-04	8.18E-04	distillate
Xylenes	3.28E-06	1.44E-05	1.44E-05	distillate
Arsenic	1.67E-05	7.33E-05	7.33E-05	distillate
Beryllium	1.26E-05	5.50E-05	5.50E-05	distillate
Cadmium	1.26E-05	5.50E-05	5.50E-05	distillate
Chromium	1.26E-05	5.50E-05	5.50E-05	distillate
Cobalt	3.45E-07	1.51E-06	1.51E-06	natural gas
Lead	3.77E-05	1.65E-04	1.65E-04	distillate
Manganese	2.51E-05	1.10E-04	1.10E-04	distillate
Mercury	1.26E-05	5.50E-05	5.50E-05	distillate
Nickel	1.26E-05	5.50E-05	5.50E-05	distillate
Selenium	6.28E-05	2.75E-04	2.75E-04	distillate
Single HAP	7.39E-03	3.23E-02	3.23E-02	natural gas
Total HAP	7.73E-03	3.39E-02	3.39E-02	natural gas
CO2	676	2960	2960	distillate
Methane	0.0277	0.1212	0.1212	distillate
N2O	0.0055	0.0242	0.0242	distillate
CO2e	492	2960	2970	distillate

Fuel Gas Heater

natural gas only

3.2 MMBtu/hr

1020 Btu/cf

Pollutant	NG Emission Factor lb/MMcf	lb/hr	Uncont TPY	Cont TPY	Source
PM	7.6	2.38E-02	0.10	0.10	Table 1.4-2
PM10	7.6	2.38E-02	0.10	0.10	Table 1.4-2
SO2	0.6	1.88E-03	0.01	0.01	Table 1.4-2
NOx	100	3.14E-01	1.37	1.37	Table 1.4-1
CO	84	2.64E-01	1.15	1.15	Table 1.4-1
VOC	5.5	1.73E-02	0.08	0.08	Table 1.4-2
H ₂ SO ₄	0.03	9.41E-05	4.12E-04	4.12E-04	
Benzene	2.10E-03	6.59E-06	2.89E-05	2.89E-05	Table 1.4-3
Dichlorobenzene	1.20E-03	3.76E-06	1.65E-05	1.65E-05	Table 1.4-3
Formaldehyde	7.50E-02	2.35E-04	1.03E-03	1.03E-03	Table 1.4-3
Hexane	1.80E+00	5.65E-03	2.47E-02	2.47E-02	Table 1.4-3
Naphthalene	6.10E-04	1.91E-06	8.38E-06	8.38E-06	Table 1.4-3
POM	6.98E-04	2.19E-06	9.59E-06	9.59E-06	
Toluene	3.40E-03	1.07E-05	4.67E-05	4.67E-05	Table 1.4-3
Arsenic	2.00E-04	6.27E-07	2.75E-06	2.75E-06	Table 1.4-4
Beryllium	1.20E-05	3.76E-08	1.65E-07	1.65E-07	Table 1.4-4
Cadmium	1.10E-03	3.45E-06	1.51E-05	1.51E-05	Table 1.4-4
Chromium	1.40E-03	4.39E-06	1.92E-05	1.92E-05	Table 1.4-4
Cobalt	8.40E-05	2.64E-07	1.15E-06	1.15E-06	Table 1.4-4
Lead	5.00E-04	1.57E-06	6.87E-06	6.87E-06	Table 1.4-2
Manganese	3.80E-04	1.19E-06	5.22E-06	5.22E-06	Table 1.4-4
Mercury	2.60E-04	8.16E-07	3.57E-06	3.57E-06	Table 1.4-4
Nickel	2.10E-03	6.59E-06	2.89E-05	2.89E-05	Table 1.4-4
Selenium	2.40E-05	7.53E-08	3.30E-07	3.30E-07	Table 1.4-4
Single HAP		5.65E-03	2.47E-02	2.47E-02	
Total HAP		0.0059	0.0259	0.0259	
CO2	119317	374	1640	1640	Table C-1
Methane	2.25	0.01	0.03	0.03	Table C-2
N2O	0.22	0.00	0.00	0.00	Table C-2
CO2e		375	1641	1641	Table A-1

EQUI 20 has no controls

Criteria and HAP emission factors from AP-42 chapter 1.4

POM determined by summing all POM species factors in AP-42 table 1.4-3 including naphthalene

Total HAP does not include naphthalene to avoid double counting

Emissions factors for GHGs derived from 40 CFR Part 98

Combustion Turbine (GE Frame 7FA) with Duct Burner

CT and DB combusting NG (normal operation)

Pollutant	Max Emissions lb/hr	Controlled lb/hr	Uncont TPY	cont eff %	Controlled TPY
PM	20.07	20.07	87.91		87.91
PM ₁₀	20.07	20.07	87.91		87.91
SO ₂	4.09	4.09	17.90		17.90
NO _x	79.03	22.51	346.15	71.52%	98.59
CO	44.92	44.92	196.75		196.75
VOC	9.12	9.12	39.94		39.94
H ₂ SO ₄	0.60	0.60	2.61		2.61
1,3-Butadiene	7.56E-04	7.56E-04	3.31E-03		3.31E-03
Acetaldehyde	7.03E-02	7.03E-02	3.08E-01		3.08E-01
Acrolein	1.13E-02	1.13E-02	4.93E-02		4.93E-02
Benzene	2.16E-02	2.16E-02	9.46E-02		9.46E-02
Dichlorobenzene	2.93E-04	2.93E-04	1.28E-03		1.28E-03
Ethylbenzene	5.63E-02	5.63E-02	2.46E-01		2.46E-01
Formaldehyde	1.27E+00	1.27E+00	5.55E+00		5.55E+00
Hexane	4.39E-01	4.39E-01	1.92E+00		1.92E+00
Naphthalene	2.43E-03	2.43E-03	1.07E-02		1.07E-02
PAH	3.87E-03	3.87E-03	1.69E-02		1.69E-02
POM	1.70E-04	1.70E-04	7.46E-04		7.46E-04
Propylene oxide	5.10E-02	5.10E-02	2.23E-01		2.23E-01
Toluene	2.29E-01	2.29E-01	1.00E+00		1.00E+00
Xylenes (mixed isomers)	1.13E-01	1.13E-01	4.93E-01		4.93E-01
Arsenic	4.88E-05	4.88E-05	2.14E-04		2.14E-04
Beryllium	2.93E-06	2.93E-06	1.28E-05		1.28E-05
Cadmium	2.69E-04	2.69E-04	1.18E-03		1.18E-03
Chromium	3.42E-04	3.42E-04	1.50E-03		1.50E-03
Cobalt	2.05E-05	2.05E-05	8.98E-05		8.98E-05
Lead	1.22E-04	1.22E-04	5.35E-04		5.35E-04
Manganese	9.28E-05	9.28E-05	4.06E-04		4.06E-04
Mercury	6.35E-05	6.35E-05	2.78E-04		2.78E-04
Nickel	5.13E-04	5.13E-04	2.25E-03		2.25E-03
Selenium	5.86E-06	5.86E-06	2.57E-05		2.57E-05
Single HAP	1.27E+00	1.27E+00	5.55E+00		5.55E+00
Total HAP	2.26	2.26	9.92		9.92
CO ₂	234773	234773	1028306		1028306
Methane	4.42	4.42	19.38		19.38
N ₂ O	0.44	0.44	1.94		1.94
CO ₂ e	235016	235016	1029368		1029368

EC-02 lists control eff of 85.9% & EC-03 list control eff of 67%

71.52% back-calculated from controlled and uncontrolled tpy

@44F heat input capacity is 1758 mmBtu/hr

@44F heat input capacity is 1864 mmBtu/hr

er NG heat input capacity is 249 mmBtu/hr

fuel oil heat input capacity is 95.1 mmBtu/hr

CT combusting Fuel Oil and DB combusting NG (normal operation)

Pollutant	Max Emissions lb/hr	Controlled lb/hr	Uncont TPY	cont eff %	Controlled TPY
PM	55.04	55.04	241.1		241.1
PM ₁₀	55.04	55.04	241.1		241.1
SO ₂	2.98	2.98	13.1		13.1
NOx	329.87	47.09	1444.8	85.72%	206.2
CO	104.78	104.78	458.9		458.9
VOC	16.89	16.89	74.0		74.0
H ₂ SO ₄	0.44	0.44	1.9		1.9
1,3-Butadiene	2.98E-02	2.98E-02	1.31E-01		1.31E-01
Acetaldehyde	4.62E-02	4.62E-02	2.02E-01		2.02E-01
Acrolein	1.45E-02	1.45E-02	6.34E-02		6.34E-02
Benzene	1.03E-01	1.03E-01	4.51E-01		4.51E-01
Dichlorobenzene	2.93E-04	2.93E-04	1.28E-03		1.28E-03
Formaldehyde	5.40E-01	5.40E-01	2.37E+00		2.37E+00
Hexane	4.39E-01	4.39E-01	1.92E+00		1.92E+00
Naphthalene	6.54E-02	6.54E-02	2.86E-01		2.86E-01
PAH	7.46E-02	7.46E-02	3.27E-01		3.27E-01
POM	1.70E-04	1.70E-04	7.46E-04		7.46E-04
Toluene	5.17E-01	5.17E-01	2.27E+00		2.27E+00
Xylenes (mixed isomers)	3.54E-01	3.54E-01	1.55E+00		1.55E+00
Arsenic	2.06E-02	2.06E-02	9.00E-02		9.00E-02
Beryllium	5.81E-04	5.81E-04	2.54E-03		2.54E-03
Cadmium	9.22E-03	9.22E-03	4.04E-02		4.04E-02
Chromium	2.08E-02	2.08E-02	9.13E-02		9.13E-02
Cobalt	2.05E-05	2.05E-05	8.98E-05		8.98E-05
Lead	2.62E-02	2.62E-02	1.15E-01		1.15E-01
Manganese	1.47E+00	1.47E+00	6.45E+00		6.45E+00
Mercury	2.30E-03	2.30E-03	1.01E-02		1.01E-02
Nickel	9.09E-03	9.09E-03	3.98E-02		3.98E-02
Selenium	4.66E-02	4.66E-02	2.04E-01		2.04E-01
Single HAP	1.47E+00	1.47E+00	6.45E+00		6.45E+00
Total HAP	3.73	3.73	16.33		16.33
CO ₂	330142	330142	1446021		1446021
Methane	12.88	12.88	56.40		56.40
N ₂ O	2.52	2.52	11.04		11.04
CO _{2e}	331215	331215	1450721		1450721

Worst Case Emissions including SUSD (when NOx control does not operate)

Pollutant	Max Emissions lb/hr	Controlled lb/hr	Uncont TPY	Cont & limit TPY
PM	55.0	55.0	241.1	241.1
PM ₁₀	55.0	55.0	241.1	241.1
SO ₂	4.1	4.1	17.9	17.9
NOx	329.9	47.1	1444.8	311.9
CO	1334.9	104.8	458.9	1251.5
VOC	81.4	16.9	74.0	114.4
H ₂ SO ₄	0.6	0.6	2.6	2.6
1,3-Butadiene	2.98E-02	2.98E-02	1.31E-01	1.31E-01
Acetaldehyde	7.03E-02	7.03E-02	3.08E-01	3.08E-01
Acrolein	1.45E-02	1.45E-02	6.34E-02	6.34E-02
Benzene	1.03E-01	1.03E-01	4.51E-01	4.51E-01
Dichlorobenzene	2.93E-04	2.93E-04	1.28E-03	1.28E-03
Ethylbenzene	5.63E-02	5.63E-02	2.46E-01	2.46E-01
Formaldehyde	1.27E+00	1.27E+00	5.55E+00	5.55E+00
Hexane	4.39E-01	4.39E-01	1.92E+00	1.92E+00
Naphthalene	6.54E-02	6.54E-02	2.86E-01	2.86E-01
PAH	7.46E-02	7.46E-02	3.27E-01	3.27E-01
POM	1.70E-04	1.70E-04	7.46E-04	7.46E-04
Propylene oxide	5.10E-02	5.10E-02	2.23E-01	2.23E-01
Toluene	5.17E-01	5.17E-01	2.27E+00	2.27E+00
Xylenes (mixed isomers)	3.54E-01	3.54E-01	1.55E+00	1.55E+00
Arsenic	2.06E-02	2.06E-02	9.00E-02	9.00E-02
Beryllium	5.81E-04	5.81E-04	2.54E-03	2.54E-03
Cadmium	9.22E-03	9.22E-03	4.04E-02	4.04E-02
Chromium	2.08E-02	2.08E-02	9.13E-02	9.13E-02
Cobalt	2.05E-05	2.05E-05	8.98E-05	8.98E-05
Lead	2.62E-02	2.62E-02	1.15E-01	1.15E-01
Manganese	1.47E+00	1.47E+00	6.45E+00	6.45E+00
Mercury	2.30E-03	2.30E-03	1.01E-02	1.01E-02
Nickel	9.09E-03	9.09E-03	3.98E-02	3.98E-02
Selenium	4.66E-02	4.66E-02	2.04E-01	2.04E-01
Single HAP	1.47E+00	1.47E+00	6.45E+00	6.45E+00
Total HAP	3.73	3.73	16.33	16.33
CO ₂	330142	330142	1446021	1446021
Methane	12.88	19.38	56.40	56.40
N ₂ O	2.52	2.52	11.04	11.04
CO ₂ e	331215	331215	1450721	1450721

distillate fuel oil 7.05 lb/gal
 HHV 139000 Btu/gal
 molar ratio of SO₂/S = 1.998091079
 sulfur content by wt of 0.05% is equivalent to 0.05067 lb/mmBtu
 controlled NOx tpy is 46.45 lb/hr (6.0 ppmvd) controlled emissions @8760 hr/yr

Tempo ID	Delta ID	Unit
TFAC 1		Faribault Energy Park
ACTV 4		All Insignificant Activities
EQUI 1	EU 007	Duct Burner
EQUI 2	EU 003	Emergency Generator
EQUI 10	EU 001	Combined Cycle Turbine
EQUI 15	EU 008	Building Services Boiler
EQUI 17		NOx Analyzer - 111
EQUI 18		CO2 Analyzer - 121
EQUI 19		DAS - 01
EQUI 20	EU 009	Fuel Gas Heater
EQUI 21		O2 Analyzer - 121
STRU 3	SV 003	Stack (Emergency Generator)
STRU 5	SV 001	Stack (Turbine & Duct Burner)
STRU 6	SV 006	Stack (Building Services Boiler)
STRU 7	SV 007	Stack (Natural Gas Fuel Heater)
STRU 8		Heat Recovery Steam Generator
STRU 9		Boler Feed Pump Enclosure
STRU 10		Packged Electrical Electronic Control Cubicle
STRU 11		Interconnection Breaker
STRU 12		GSU Transformer West
STRU 13		GSU Transformer EAST
STRU 14		Generator Breaker
STRU 15		Combustion Turbine Generator
STRU 16		Turbine Air Inlet Duct/Silencer
STRU 17		Combustion Turbine
STRU 18		Cooling Tower
STRU 19		Fire Pump House
STRU 20		Steam Turbine Building
STRU 21		Emergency Generator
STRU 22		Fuel Gas Heater
STRU 23		Water Treatment Building
STRU 24		Maintenance
STRU 25		HRSG MCC
STRU 26		Power Distribution Center
TREA 7	CE 001	Selective Catalytic Reduction
TREA 8		Air Injection
TREA 9		Water Injection

Attachment 2 – Subject item inventory and facility requirements

List of SIs

Agency Interest: Faribault Energy Park













Agency Interest ID: 90270

Activity: IND20090001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	SI Designation and Description	
Faribault Energy Park	ACTV4	Null All IA's	
	AISI90270	Null Null	
	EQUI1	EU007 Duct Burner - 249 mmBtu/hr w/SCR	
	EQUI2	EU003 Emergency Generator - 750 kW	
	EQUI10	EU001 Combustion Turbine - GE 7FA w/DLN, SCR, Air Attemperation, & ..	
	EQUI15	EU008 Building Services Boiler	
	EQUI17	Null NOx Analyzer - 111	
	EQUI18	Null CO Analyzer - 121	
	EQUI19	Null DAS - 01	
	EQUI20	EU009 Natural Gas Fuel Heater	
	EQUI21	Null O2 Analyzer - 121	
	STRU3	SV003 Emergency Generator Stack	

List of SIs

Agency Interest: Faribault Energy Park













Agency Interest ID: 90270

Activity: IND20090001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	SI Designation and Description	
Faribault Energy Park	STRU5	SV001 Combined Cycle Combustion Turbine/Duct Burner & HRSG Stack	
	STRU6	SV006 Building Services Boiler Stack	
	STRU7	SV007 Natural Gas Fuel Heater Stack	
	STRU8	Null Heat Recovery Steam Generator	
	STRU9	Null Boiler Feed Pump Enclosure	
	STRU10	Null Packaged Electrical Electronic Control Cubicle	
	STRU11	Null Interconnection Breaker	
	STRU12	Null GSU Transformer West	
	STRU13	Null GSU Transformer East	
	STRU14	Null Generator Breaker	
	STRU15	Null Combustion Turbine Generator	
	STRU16	Null Turbine Air Inlet Duct/Silencer	

List of SIs

Agency Interest: Faribault Energy Park













Agency Interest ID: 90270

Activity: IND20090001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	SI Designation and Description	
Faribault Energy Park	STRU17	Null Combustion Turbine	
	STRU18	Null Cooling Tower	
	STRU19	Null Fire Pump House	
	STRU20	Null Steam Turbine Building	
	STRU21	Null Emergency Generator	
	STRU22	Null Fuel Gas Heater	
	STRU23	Null Water Treatment Building	
	STRU24	Null Maintenance	
	STRU25	Null HRSG MCC	
	STRU26	Null Power Distribution Center	
	TFAC1	13100071 Faribault Energy Park	
	TREA7	CE001 Selective Catalytic Reduction	

List of SIs

Agency Interest: Faribault Energy Park



Agency Interest ID: 90270

Activity: IND20090001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	SI Designation and Description	
Faribault Energy Park	TREA8	Null Air Injection	
	TREA9	Null Water Injection	

Insignificant air emissions activity

Agency Interest: Faribault Energy Park






Agency Interest ID: 90270

Activity: IND20090001 (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	
Faribault Energy Park	IND20090001	Activity	Insignificant Air Emissions Activity	ACTV4	Null All IA's	Active/ Existing	Minn. R. 7007.1300, subp. 3(A)	
							Minn. R. 7007.1300, subp. 3(G)	
							Minn. R. 7007.1300, subp. 3(H)(3)	
							Minn. R. 7007.1300, subp. 3(H)(4)	
							Minn. R. 7007.1300, subp. 3(I)	
							Minn. R. 7007.1300, subp. 3(K)	
							Minn. R. 7007.1300, subp. 4	

PTE by subject item

Agency Interest: None

Agency Interest ID: 90270

Activity: None (Part 70 Reissuance)

Details for:

SI Category: All

SI Type: All

Subject Item Category Description	Subject Item 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	Boiler	EQUI15	EU008	Building Services Boiler	1,4-Dichlorobenzene (par..	4.924e-06	2.1565e-05	2.1565e-05						
					Arsenic compounds	1.674e-05	7.3321e-05	7.3321e-05						
					Benzene	8.616e-06	3.7739e-05	3.7739e-05						
					Beryllium	1.2555e-05	5.4991e-05	5.4991e-05						
					Cadmium compounds	1.2555e-05	5.4991e-05	5.4991e-05						
					Carbon Dioxide	676	2,960	2,960						
					Carbon Dioxide Equivalent	492	2,960	2,970						
					Carbon Monoxide	0.34	1.51	1.51						
					Chromium compounds	1.2555e-05	5.4991e-05	5.4991e-05						
					Cobalt compounds	3.45e-07	1.51e-06	1.51e-06						
					Ethylbenzene	1.915e-06	8.387e-06	8.387e-06						
					Formaldehyde	0.00144518	0.006329888	0.006329888						
					HAPs - Single	0.007	0.032	0.032						
					HAPs - Total	0.008	0.034	0.034						
					Hexane	0.007385294	0.032347588	0.032347588						
					Lead	3.7665e-05	0.000164973	0.000164973						
					Manganese compounds	2.511e-05	0.000109982	0.000109982						
					Mercury	1.2555e-05	5.4991e-05	5.4991e-05						
					Methane	0.0277	0.1212	0.1212						
					Naphthalene	3.4022e-05	0.000149016	0.000149016						
					Nickel compounds	1.2555e-05	5.4991e-05	5.4991e-05						
					Nitrogen Oxides	0.6	2.64	2.64						
					Nitrous Oxide	0.0055	0.0242	0.0242						
					Particulate Matter	0.1	0.44	0.44						
					PM < 2.5 micron	0.1	0.44	0.44						
					PM < 10 micron	0.1	0.44	0.44						
					Polycyclic organic matter	9.9356e-05	0.00043518	0.00043518						
					Selenium compounds	6.2775e-05	0.000274955	0.000274955						
					Sulfur Dioxide	0.0064	0.028	0.028						
					Sulfuric Acid Mist	0.00032	0.0014	0.0014						
					Toluene	0.000186669	0.000817611	0.000817611						
					Volatile Organic Compoun..	0.02	0.1	0.1						
					Xylenes, Total	3.282e-06	1.4374e-05	1.4374e-05						
					EQUI20	Natural Gas Fuel Heater	EU009	EU009	Natural Gas Fuel Heater	1,4-Dichlorobenzene (par..	3.764706e-06	1.6489412e-05	1.6489412e-05	
										Arsenic compounds	6.27451e-07	2.748235e-06	2.748235e-06	
										Benzene	6.588235e-06	2.8856471e-05	2.8856471e-05	
										Beryllium	3.7647e-08	1.64894e-07	1.64894e-07	
										Cadmium compounds	3.45098e-06	1.5115294e-05	1.5115294e-05	
										Carbon Dioxide	374	1,640	1,640	
										Carbon Dioxide Equivalent	375	1,641	1,641	
										Carbon Monoxide	0.26	1.15	1.15	
										Chromium compounds	4.392157e-06	1.9237647e-05	1.9237647e-05	
										Cobalt compounds	2.63529e-07	1.154259e-06	1.154259e-06	
Formaldehyde	0.000235294	0.001030588	0.001030588											
HAPs - Single	0.006	0.025	0.025											
HAPs - Total	0.006	0.026	0.026											
Hexane	0.005647059	0.024734118	0.024734118											
Lead	1.568627e-06	6.870588e-06	6.870588e-06											
Manganese compounds	1.192157e-06	5.221647e-06	5.221647e-06											
Mercury	8.15686e-07	3.572706e-06	3.572706e-06											
Methane	0.01	0.03	0.03											
Naphthalene	1.913725e-06	8.382118e-06	8.382118e-06											
Nickel compounds	6.588235e-06	2.8856471e-05	2.8856471e-05											
Nitrogen Oxides	0.31	1.37	1.37											
Nitrous Oxide	0	0	0											
Particulate Matter	0.02	0.1	0.1											
PM < 2.5 micron	0.02	0.1	0.1											
PM < 10 micron	0.02	0.1	0.1											
Polycyclic organic matter	2.190431e-06	9.594089e-06	9.594089e-06											
Selenium compounds	7.5294e-08	3.29788e-07	3.29788e-07											
Sulfur Dioxide	0	0.01	0.01											
Sulfuric Acid Mist	0	0	0											
Toluene	1.0666667e-05	4.672e-05	4.672e-05											
Volatile Organic Compoun..	0.02	0.08	0.08											

PTE by subject item

Agency Interest: None

Agency Interest ID: 90270

Activity: None (Part 70 Reissuance)

Details for:

SI Category: All

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	EQUI2	EU003	Emergency Generator - 750 kW	Acetaldehyde	0.000430164	0.001884118	0.000107541					
					Acrolein	0.000134512	0.000589161	3.36279					
					Benzene	0.01324632	0.058018882	0.00331158					
					Carbon Dioxide	2,756.607244	12,073.93973	689.151811					
					Carbon Dioxide Equivalent	2,766.158465	12,115.77408	691.5396162					
					Carbon Monoxide	12.9085	56.53923	3.227125					
					Formaldehyde	0.001346823	0.005899085	0.000336706					
					HAPs - Single	0.048	0.209	0.012					
					HAPs - Total	0.074	0.326	0.019					
					Methane	0.11289859	0.494495825	0.028224648					
					Naphthalene	0.0022191	0.009719658	0.000554775					
					Nitrogen Oxides	56.328	246.71664	14.082					
					Nitrous Oxide	0.022579718	0.098899165	0.00564493					
					Particulate Matter	1.6429	7.195902	0.410725					
					PM < 2.5 micron	0.978111	4.28412618	0.24452775					
					PM < 10 micron	0.978111	4.28412618	0.24452775					
					Propylene oxide	0.0476	0.2086	0.0119					
					Sulfur Dioxide	0.028	0.12	0.0071					
					Sulfuric Acid Mist	0.0014	0.0062	0.00036					
					Toluene	0.0048	0.021	0.0012					
					Total Polycyclic aromatic ...	0.00139974	0.006130861	0.000349935					
					Volatile Organic Compoun...	1.65	7.2	0.4					
					Xylenes, Total	0.00329451	0.014429954	0.000823628					
					Turbine	EQUI10	EU001	Combustion Turbine - GE 7FA w/DLN, SCR, Air Attenuation, & Water Injection	1,3-Butadiene	0	0	0	
									Acetaldehyde	0	0	0	
									Acrolein	0	0	0	
									Arsenic compounds	0	0	0	
									Benzene	0	0	0	
									Beryllium	0	0	0	
									Cadmium compounds	0	0	0	
									Carbon Monoxide	0	0	0	
									Chromium compounds	0	0	0	
									Ethylbenzene	0	0	0	
Formaldehyde	0	0	0										
HAPs - Total	0	0	0										
Lead Compounds	0	0	0										
Manganese compounds	0	0	0										
Mercury	0	0	0										
Naphthalene	0	0	0										
Nickel compounds	0	0	0										
Nitrogen Oxides	0	0	0										
Particulate Matter	0	0	0										
PM < 10 micron	0	0	0										
Propylene oxide	0	0	0										
Selenium compounds	0	0	0										
Sulfur Dioxide	0	0	0										
Sulfuric Acid Mist	0	0	0										
Toluene	0	0	0										
Volatile Organic Compoun...	0	0	0										
Xylenes, Total	0	0	0										
Structure	Stack/Vent	STRUS	SV001	Combined Cycle Combustion Turbine/Duct Burner & HRSG Stack	1,3-Butadiene	0.029824	0.13062912	0.13062912					
					1,4-Dichlorobenzene (par...	0.000292941	0.001283082	0.001283082					
					Acetaldehyde	0.0703	0.308	0.308					
					Acrolein	0.01448328	0.063436766	0.063436766					
					Arsenic compounds	0.020552824	0.090021367	0.090021367					
					Benzene	0.103032647	0.451282994	0.451282994					
					Beryllium	0.000581	0.00254	0.00254					
					Cadmium compounds	0.00922	0.0404	0.0404					
					Carbon Dioxide	330,142	1,446,021	1,446,021					
					Carbon Dioxide Equivalent	331,215	1,450,721	1,450,721					
					Carbon Monoxide	1,334.9	458.94	1,251.5					
					Chromium compounds	0.0208	0.0913	0.0913					
					Cobalt compounds	2.0505882e-05	8.9815765e-05	8.9815765e-05					
					Ethylbenzene	0.056299513	0.246591869	0.246591869					

PTE by subject item

Agency Interest: None

Agency Interest ID: 90270

Activity: None (Part 70 Reissuance)

Details for:

SI Category: All

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)
Structure	Stack/Vent	STRUS	SV001	Combined Cycle Combustion Turbine/Duct Burner & HRSG Stack	Formaldehyde	1.27	5.55	5.55	
					HAPs - Single	1.473	6.452	6.452	
					HAPs - Total	3.73	16.33	16.33	
					Hexane	0.439411765	1.924623529	1.924623529	
					Lead	0.0262	0.115	0.115	
					Manganese compounds	1.4731306	6.452312028	6.452312028	
					Mercury	0.0023	0.0101	0.0101	
					Methane	12.88	56.4	56.4	
					Naphthalene	0.0654	0.286	0.286	
					Nickel compounds	0.00909	0.0398	0.0398	
					Nitrogen Oxides	329.87	1,444.82	311.9	
					Nitrous Oxide	2.52	11.04	11.04	
					Particulate Matter	55	241.1	241.1	
					PM < 2.5 micron	55	241.1	241.1	
					PM < 10 micron	55	241.1	241.1	
					Polycyclic organic matter	0.00017	0.000746	0.000746	
					Propylene oxide	0.051	0.2233	0.2233	
					Selenium compounds	0.0466	0.204	0.204	
					Sulfur Dioxide	4.1	17.9	17.9	
					Sulfuric Acid Mist	0.6	2.61	2.61	
					Toluene	0.517	2.27	2.27	
					Total Polycyclic aromatic ..	0.07456	0.3265728	0.3265728	
					Volatile Organic Compoun..	81.4	74	114.4	
					Xylenes, Total	0.3542	1.5515	1.5515	

SI - SI relationships

Agency Interest: None





















Agency Interest ID: 90270

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	Boiler	EQUI15	EU008 Building Services Boiler	sends to	STRU6	Null	Stack/Vent	9/1/2007	Null	
		EQUI20	EU009 Natural Gas Fuel Heater	sends to	STRU7	Null	Stack/Vent	8/6/2007	Null	
	Continuous Emission Monitor	EQUI17	Null NOx Analyzer - 111	sends to	EQUI19	Null	Data Acquisition System	10/20/2016	Null	
		EQUI18	Null CO Analyzer - 121	sends to	EQUI19	Null	Data Acquisition System	10/20/2016	Null	
		EQUI21	Null O2 Analyzer - 121	monitors	EQUI1	Null	Duct Burner	7/2/2014	Null	
				EQUI10	Null	Turbine	7/2/2014	Null		
			sends to	EQUI19	Null	Data Acquisition System	10/20/2016	Null		
	Duct Burner	EQUI1	EU007 Duct Burner - 249 mmBtu/hr w/SCR	is controlled by	TREA7	Null	139-SCR (Selective Catalytic Reduction)	7/5/2007	Null	
				is monitored by	EQUI17	Null	Continuous Emission Monitor	7/2/2014	Null	
					EQUI18	Null	Continuous Emission Monitor	7/2/2014	Null	
				sends to	EQUI19	Null	Data Acquisition System	7/1/2007	Null	
					STRU5	100	Stack/Vent	7/1/2007	Null	
	Reciprocating IC Engine	EQUI2	EU003 Emergency Generator - 750 kW	sends to	STRU3	100	Stack/Vent	9/1/2007	Null	
	Turbine	EQUI10	EU001 Combustion Turbine - GE 7FA w/DLN, SCR, Air Attemperation, & Water Injection	is controlled in series by	TREA7	Null	139-SCR (Selective Catalytic Reduction)	7/5/2007	Null	
					TREA8	Null	031-Air Injection	4/6/2005	Null	
				TREA9	Null	028-Steam or Water Injection	7/5/2007	Null		
is monitored by				EQUI17	Null	Continuous Emission Monitor	7/2/2014	Null		
				EQUI18	Null	Continuous Emission Monitor	7/2/2014	Null		
sends to				EQUI19	Null	Data Acquisition System	7/1/2007	Null		
				STRU5	100	Stack/Vent	7/5/2007	Null		

Emission Units 1

Agency Interest: None
Agency Interest ID: 90270
Activity: None (Part 70 Reissuance)

Details for:

SI Category: None
SI Type: Turbine





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	
Turbine	EQUI10	EU001 Combustion Turbine - GE 7FA w/DLN, SCR, Air Attemperation, & Water Injection	General Electric	PG7241(FA)	1795	million British thermal units	hours	Fuel	2/15/2006	7/5/2007	Null	

Emission Units 2

Agency Interest: None
 Agency Interest ID: 90270
 Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment
 SI Type: Boiler, Duct Burner, 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	
Boiler	EQUI15	EU008 Building Services Boiler	Lochinvar	KBN500	4.1	1000 cubic feet	hours	Natural Gas	2/1/2007	9/1/2007	Null	
	EQUI20	EU009 Natural Gas Fuel Heater	Sigma Thermal	PC06020	3.14	1000 cubic feet	hours	Natural Gas	2/1/2007	8/6/2007	Null	
Duct Burner	EQUI1	EU007 Duct Burner - 249 mmBtu/hr w/SCR	Coen	40D-15043-1-000	249	million British thermal units	hours	Heat	9/1/2006	7/1/2007	Null	
Reciprocating IC Engine	EQUI2	EU003 Emergency Generator - 750 kW	Ziegler	3412	2347	horsepower	hours	Energy	8/22/2006	9/1/2007	Null	

Emission Units 2 (continued)

Agency Interest: None





Agency Interest ID: 90270

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: Boiler, Duct Burner, 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)	
Boiler	EQUI15	EU008 Building Services Boiler	Not coal burning	Null	Null	Null	N	Null	
	EQUI20	EU009 Natural Gas Fuel Heater	Not coal burning	Null	Null	Null	N	Null	
Duct Burner	EQUI1	EU007 Duct Burner - 249 mmBtu/hr w/SCR	Not coal burning	Null	Null	Null	N	Null	
Reciprocating IC Engine	EQUI2	EU003 Emergency Generator - 750 kW	CI	Emergency/blackstart	Null	Null	Null	Null	

CEMs/COM, General

Agency Interest: None




Agency Interest ID: 90270

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: Continuous Emission Monitor

Subject Item Type	Subject Item ID	SI Designation and Description	Manufacturer	Model	Serial Number	Parameter Monitored (CEMs/COMs)	Primary or Backup? (monitors)	Bypass Capability? (CEMs/COMs)	Install Date (CEMs/COMs)	Certification Date	Certification Basis	Span	System Full Scale Value	Optical Path Length	
Continuous Emission Monitor	EQUI17	Null NOx Analyzer - 111	Teledyn API	M200 EM	756	Nitrogen Oxides	Primary	No	7/2/2014	7/22/2014	40 CFR Pt 75	10	200	Null	
	EQUI18	Null CO Analyzer - 121	Teledyn API	M300 EM	437	Carbon Monoxide	Primary	No	7/2/2014	7/22/2014	Minn. Rule 7017	50	1000	Null	
	EQUI21	Null O2 Analyzer - 121	Teledyn API	M300 EM	437	Oxygen	Primary	No	7/2/2014	7/22/2014	40 CFR Pt 75	50	1000	Null	

Data Acquisition System, General

Agency Interest: None


Agency Interest ID: 90270

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: Data Acquisition System

Subject Item ID	SI Designation and Description	Manufacturer	Model	Serial Number	Primary or Backup? (DASs)	Install Date (DASs)	
EQUI19	Null DAS - 01	CISCO	BREEZ75	Null	Primary	7/1/2007	

Buildings, General

Agency Interest: None








Agency Interest ID: 90270

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 Heat Recovery Steam Generator	120	feet	118	feet	43	feet	
	STRU9	Null Boiler Feed Pump Enclosure	20	feet	62.33	feet	26.25	feet	
	STRU10	Null Packaged Electrical Electronic Control C..	16	feet	16	feet	39	feet	
	STRU11	Null Interconnection Breaker	17	feet	3	feet	6	feet	
	STRU12	Null GSU Transformer West	16	feet	36	feet	36	feet	
	STRU13	Null GSU Transformer East	25	feet	36	feet	36	feet	
	STRU14	Null Generator Breaker	19	feet	6	feet	20	feet	
	STRU15	Null Combustion Turbine Generator	69.82	feet	26.25	feet	26.25	feet	
	STRU16	Null Turbine Air Inlet Duct/Silencer	69.82	feet	32.8	feet	46	feet	
	STRU17	Null Combustion Turbine	69.82	feet	65.6	feet	26.25	feet	
	STRU18	Null Cooling Tower	36	feet	54.67	feet	216.7	feet	
	STRU19	Null Fire Pump House	21	feet	55.75	feet	82	feet	
	STRU20	Null Steam Turbine Building	86	feet	210	feet	118	feet	
	STRU21	Null Emergency Generator	12	feet	16.4	feet	10	feet	
	STRU22	Null Fuel Gas Heater	15	feet	9	feet	16.5	feet	
	STRU23	Null Water Treatment Building	21	feet	62.33	feet	30	feet	
	STRU24	Null Maintenance	18	feet	36	feet	55.75	feet	
	STRU25	Null HRSG MCC	16	feet	20	feet	13	feet	
	STRU26	Null Power Distribution Center	16	feet	30	feet	55.75	feet	

Stack/Vent, General

Agency Interest: None

Agency Interest ID: 90270

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	STRU3	SV003 Emergency Generator Stack	22	0.83	Null	Null	6459	958	Estimate	Upwards with no cap on stack/vent	■
	STRU5	SV001 Combined Cycle Combustion Turbine/Du...	175	19	Null	Null	1177708	248	Estimate	Upwards with no cap on stack/vent	■
	STRU6	SV006 Building Services Boiler Stack	33	1	Null	Null	1238	328	Estimate	Upwards with no cap on stack/vent	■
	STRU7	SV007 Natural Gas Fuel Heater Stack	25	0.67	Null	Null	945	330	Estimate	Upwards with no cap on stack/vent	■

Other Control Equipment

Agency Interest: None

Agency Interest ID: 90270

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Treatment

SI Type: 139-SCR (Selective Catalytic Reduction)

Subject Item Type Description	Subject Item ID	SI Designation and Description	Manufacturer	Model	Installation Start Date	Pollutant Controlled	Capture Efficiency (%)	Destruction Collect Efficiency (%)	Subject to CAM?	Large or Other PSEU?	Efficiency Basis	Other operating parameters?	Other operating parameters description
139-SCR (Selective Catalytic Reduction)	TREA7	CE001 Selective Catalytic Reduction	Pearless Mfg/Cormetech	Null	5/31/2006	Nitrogen Oxides	100	88	Null	Null	Null	Yes	SCR inlet gas temperature mus...

Injections Systems, General

Agency Interest: None

Agency Interest ID: 90270

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Treatment

SI Type: 028-Steam or Water Injection & 031-Air Injection

Subject Item ID	SI Designation and Description	Manufacturer	Model	Installation Start Date	Pollutant Controlled	Capture Efficiency (%)	Destruction Collect Efficiency (%)	Subject to CAM?	Large or Other PSEU?	Efficiency Basis	Material Injected	Injection System Maximum Injection Rate	Maximum Injection Rate Units	Injection System Minimum Injection Rate	Minimum Injection Rate Units	
...er Injection, TREA9	Null..	O'Brien & Gere	PD3-DJH	2/15/2006	Null	Null	Null	Null	Null	Null	Null	Null	Null	Null	Null	■
...ir Injection, TREA8	Null..	HRST	H10186	5/31/2011	Carbon Monoxide	100	67	No	Null	Mfr/Vendor data	Null	Null	Null	Null	Null	■

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (13100071)	1	Combined Cycle Operation: This facility is composed (in part) of a single GE 7FA combustion turbine generator (CTG) permitted to operate in combined cycle mode. The Permittee shall not operate the CTG in simple cycle mode.	Minn. R. 7007.0800, subp. 2
TFAC 1 (13100071)	2	Sulfur Content of Fuel <= 15 parts per million for all fuel oil combusted at EQUI 2, EQUI 10, and EQUI 15. (This is equivalent to 0.0015 lb SO ₂ /MMBtu heat input.).	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2)& Minn. R. 7007.3000
TFAC 1 (13100071)	3	This source is subject to the U.S. EPA Acid Rain Program codified at 40 CFR Parts 72, 73, and 75. Some of the Acid Rain Program's requirements are included in Sections 6 and 7 of this permit. All Acid Rain Program requirements are in the Permittee's acid rain permit application in Appendix C of this permit. The GE combined cycle combustion turbine (EQUI 10 with duct burner EQUI 1) is a utility unit, as well as a new unit, a Phase II unit, an oil-fired unit, and a gas-fired unit, as defined in 40 CFR Section 72.2.	40 CFR pt. 72, 40 CFR pt. 73, 40 CFR pt. 75
TFAC 1 (13100071)	4	Emissions from the stationary source cannot exceed any allowances that the source lawfully holds under federal acid rain regulations, except as allowed by Minn. R. 7007.0800, subp. 7.	Minn. R. 7007.0800, subp. 7
TFAC 1 (13100071)	5	Keep the certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications and related submissions, and all records made or required under the Acid Rain Program on site for a period of 5 years from the date the document was created.	40 CFR 72.9(f)
TFAC 1 (13100071)	7	Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of EQUI 1 and/or EQUI 10 or the malfunction of any related control equipment.	40 CFR 60.7(b)
TFAC 1 (13100071)	9	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 80.510(c) only by design.	Minn. R. 7005.0100, subp. 35a, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
TFAC 1 (13100071)	10	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 15 ppm (0.0015 percent) by weight.	Minn. R. 7007.0800, subs. 4-5
TFAC 1 (13100071)	11	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. Modeling parameters in Appendix B are included for reference only as described elsewhere in this permit.	Minn. R. 7007.0800, subp. 2
TFAC 1 (13100071)	12	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. 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 (13100071)	13	Modeled Parameters for CO, NO _x , PM ₁₀ , and SO ₂ : The parameters used in modeling CO, NO _x , PM ₁₀ , and SO ₂ for permit number 13100071-003 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.	Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000
TFAC 1 (13100071)	29	Circumvention: Do not build, erect, install, or use any article, machine, equipment, process, device, or means that conceals an emission which would otherwise constitute a violation of a federal or state air pollution control rule. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.	40 CFR 60.12, Minn. R. 7011.0020, Minn. R. 7011.0050

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (13100071)	1260	<p>PERMIT SHIELD: Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.</p> <p>This permit shall not alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance.</p>	Minn. R. 7007.1800, (A)(2)
TFAC 1 (13100071)	1290	The Permittee currently uses ozone-depleting substances as defined in 40 CFR pt. 82. Sections 601-618 of the 1990 Clean Air Act Amendments and 40 CFR pt. 82 may apply to the facility. Read Sections 601-618 and 40 CFR pt. 82 to determine all the requirements that apply to the facility.	40 CFR pt. 82
TFAC 1 (13100071)	1300	<p>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).</p> <p>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.</p>	Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (13100071)	1310	<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following:</p> <ol style="list-style-type: none"> 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. <p>The Permittee shall maintain records of this documentation.</p>	Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.1200, subp. 4, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (13100071)	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, subps. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (13100071)	1330	<p>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:</p> <ol style="list-style-type: none"> 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, subps. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (13100071)	1340	Before beginning actual construction of any project which includes any electric utility steam generating unit (EUSGU), the Permittee shall submit a copy of the preconstruction documentation (items 1-4 under Preconstruction Documentation, above) to the Agency.	Minn. R. 7007.0800, subs. 4-5, Title I Condition: 40 CFR 52.21(r)(6)(ii) and Minn. R. 7007.3000
TFAC 1 (13100071)	1350	For any project which includes any EUSGU, the Permittee must submit an annual report to the Agency, within 60 days after the end of the calendar year. 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 quantified annual emissions analyzed using the ATPA test, plus the potential emissions associated with the same project analyzed as part of a hybrid test. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection, if that is the case.	Minn. R. 7007.0800, subs. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (13100071)	1360	For any project which does not include any EUSGU, the Permittee must submit a report to the Agency if the annual summed (actual, plus potential 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 rate is 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
TFAC 1 (13100071)	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, subs. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
TFAC 1 (13100071)	1390	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 (13100071)	1400	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 (13100071)	1410	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 (13100071)	1420	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 (13100071)	1430	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 (13100071)	1440	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 (13100071)	1450	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)

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (13100071)	1460	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
TFAC 1 (13100071)	1470	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 (13100071)	1480	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
TFAC 1 (13100071)	1490	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 (13100071)	1500	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 (13100071)	1510	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 (13100071)	1550	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 (13100071)	1620	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 (13100071)	1630	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 (13100071)	1650	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 (13100071)	1660	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

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (13100071)	1670	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
TFAC 1 (13100071)	1680	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 (13100071)	1690	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 (13100071)	1710	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 (13100071)	1720	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 (13100071)	1740	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 (13100071)	1750	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 (13100071)	1760	Emission Fees: due 30 days after receipt of an MPCA bill.	Minn. R. 7002.0005-7002.0095
TFAC 1 (13100071)	1770	The Permittee must submit a Risk Management Plan (RMP) under 40 CFR pt. 68. Each owner or operator of a stationary source, at which a regulated substance is present above a threshold quantity in a process, shall design and implement an accidental release prevention program. An initial RMP must be submitted no later than the latest of the following dates: 1) June 21, 1999; 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or 3) The date on which a regulated substance is first present above a threshold quantity in a process. A full update and resubmission of the RMP is required at least once every five years. The five-year anniversary date is reset whenever the Permittee fully updates and resubmits their RMP. Submit RMPs to the Risk Management Plan Reporting Center, P.O. Box 1515, Lanham-Seabrook, Maryland 20703-1515. RMP information may be obtained at http://www.epa.gov/rmp or by calling 1-800-424-9346.	40 CFR pt. 68
TFAC 1 (13100071)	3340	The Permittee shall submit excess emission/downtime report : Due by 30 days after the end of each calendar quarter following permit issuance. Submit this on form DRF-1 (Excess Emissions Reporting) as amended. The EER shall indicate all periods of monitor bypass and exceedances of the limit including those allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions, as well as a summary of audit results and frequencies. If no excess emissions, downtime or bypasses occurred during the quarter, submit a signed report supplying the necessary monitor data needed to verify this.	Minn. R. 7017.1110, subp. 1-2

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TFAC 1 (13100071)	20760	Transport Rule (TR) NOx Annual Trading Program Requirements. The Permittee shall comply with the TR NOx Annual Trading Program requirements contained in Appendix E.	40 CFR 97.430-435
TFAC 1 (13100071)	20770	Designated representative requirements. The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR Sections 97.413 through 97.418.	40 CFR 97.406(a)
TFAC 1 (13100071)	20780	TR NOx Emissions monitoring, reporting, and recordkeeping requirements. 1) The owners and operators and the designated representative of each TR NOx Annual source and each TR NOx Annual unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Section 97.430 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 40 CFR Section 97.431 (initial monitoring system certification and recertification procedures), 40 CFR Section 97.432 (monitoring system out-of-control periods), 40 CFR Section 97.433 (notifications concerning monitoring), 40 CFR Section 97.434 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 40 CFR Section 97.435 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements). 2) The emissions data determined in accordance with 40 CFR Section 97.430 through 97.435 shall be used to calculate allocations of TR NOx Annual allowances under 40 CFR Section 97.411(a)(2) and (b) and 40 CFR Section 97.412 and to determine compliance with the TR NOx Annual emissions limitation and assurance provisions under paragraph 40 CFR Section 97.406(c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR Section 97.430 through 97.435 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.	40 CFR 97.406(b)
TFAC 1 (13100071)	20790	TR NOx Annual emissions limitation. i) As of the allowance transfer deadline (midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day)) for a control period in a given year, the owners and operators of each TR NOx Annual source and each TR NOx Annual unit at the source shall hold, in the source's compliance account, TR NOx Annual allowances available for deduction for such control period under 40 CFR Section 97.424(a) in an amount not less than the tons of total NOx emissions for such control period from all TR NOx Annual units at the source. ii) If total NOx emissions during a control period in a given year from the TR NOx Annual units at a TR NOx Annual source are in excess of the TR NOx Annual emissions limitation set forth in 40 CFR Section 97.406(c)(1)(i) above, then: A) The owners and operators of the source and each TR NOx Annual unit at the source shall hold the TR NOx Annual allowances required for deduction under 40 CFR Section 97.424(d); and B) The owners and operators of the source and each TR NOx Annual unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAA and the Clean Air Act.	40 CFR 97.406(c)(1)

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TFAC 1 (13100071)	20800	<p>TR NOx Annual assurance provisions.</p> <p>i) If total NOx emissions during a control period in a given year from all TR NOx Annual units at TR NOx Annual sources in Minnesota and Indian country within the borders of Minnesota exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NOx emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NOx Annual allowances available for deduction for such control period under 40 CFR Section 97.425(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR Section 97.425(b), of multiplying— A) The quotient of the amount by which the common designated representative's share of such NOx emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the Minnesota and Indian country within the borders of Minnesota for such control period, by which each common designated representative's share of such NOx emissions exceeds the respective common designated representative's assurance level; and B) The amount by which total NOx emissions from all TR NOx Annual units at TR NOx Annual sources in Minnesota and Indian country within the borders of Minnesota for such control period exceed the state assurance level.</p> <p>ii) The owners and operators shall hold the TR NOx Annual allowances required under 40 CFR Section 97.406(c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.</p>	40 CFR 97.406(c)(2)(i)-(v)
TFAC 1 (13100071)	20800	<p>iii) Total NOx emissions from all TR NOx Annual units at TR NOx Annual sources in Minnesota and Indian country within the borders of Minnesota during a control period in a given year exceed the state assurance level if such total NOx emissions exceed the sum, for such control period, of the state NOx Annual trading budget under 40 CFR Section 97.410(a) and the state's variability limit under 40 CFR Section 97.410(b).</p> <p>iv) It shall not be a violation of 40 CFR part 97, subpart AAAAA or of the Clean Air Act if total NOx emissions from all TR NOx Annual units at TR NOx Annual sources in Minnesota and Indian country within the borders of Minnesota during a control period exceed the state assurance level or if a common designated representative's share of total NOx emissions from the TR NOx Annual units at TR NOx Annual sources in the Minnesota and Indian country within the borders of Minnesota during a control period exceeds the common designated representative's assurance level.</p> <p>v) To the extent the owners and operators fail to hold TR NOx Annual allowances for a control period in a given year in accordance with 40 CFR Section 97.406(c)(2)(i) through (iii) above, A. The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and B. Each TR NOx Annual allowance that the owners and operators fail to hold for such control period in accordance with 40 CFR Section 97.406(c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAA and the Clean Air Act.</p>	40 CFR 97.406(c)(2)(i)-(v)
TFAC 1 (13100071)	20810	<p>Compliance periods.</p> <p>i) A TR NOx Annual unit shall be subject to the requirements under 40 CFR Section 97.406(c)(1) above for the control period starting on the later of January 1, 2015, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.</p> <p>ii) A TR NOx Annual unit shall be subject to the requirements under 40 CFR Section 97.406(c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.</p>	40 CFR 97.406(c)(3)
TFAC 1 (13100071)	20820	<p>Vintage of allowances held for compliance.</p> <p>i) A TR NOx Annual allowance held for compliance with the requirements under 40 CFR Section 97.406(c)(1)(i) above for a control period in a given year must be a TR NOx Annual allowance that was allocated for such control period or a control period in a prior year.</p> <p>ii) A TR NOx Annual allowance held for compliance with the requirements under 40 CFR Section 97.406(c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR NOx Annual allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.</p>	40 CFR 97.406(c)(4)

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TFAC 1 (13100071)	20830	Allowance Management System requirements. Each TR NOx Annual allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart AAAAA.	40 CFR 97.406(c)(5)
TFAC 1 (13100071)	20840	Limited authorization. A TR NOx Annual allowance is a limited authorization to emit one ton of NOx during the control period in one year. Such authorization is limited in its use and duration as follows: i) Such authorization shall only be used in accordance with the TR NOx Annual Trading Program; and ii) Notwithstanding any other provision of 40 CFR part 97, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.	40 CFR 97.406(c)(6)
TFAC 1 (13100071)	20850	Property right. A TR NOx Annual allowance does not constitute a property right.	40 CFR 97.406(c)(7)
TFAC 1 (13100071)	20860	Additional recordkeeping and reporting requirements. 1) Unless otherwise provided, the owners and operators of each TR NOx Annual source and each TR NOx Annual unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator. i) The certificate of representation under 40 CFR Section 97.416 for the designated representative for the source and each TR NOx Annual unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR Section 97.416 changing the designated representative. ii) All emissions monitoring information, in accordance with 40 CFR part 97, subpart AAAAA. iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR NOx Annual Trading Program. 2) The designated representative of a TR NOx Annual source and each TR NOx Annual unit at the source shall make all submissions required under the TR NOx Annual Trading Program, except as provided in 40 CFR Section 97.418. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.	40 CFR 97.406(e)
TFAC 1 (13100071)	20870	Liability. 1) Any provision of the TR NOx Annual Trading Program that applies to a TR NOx Annual source or the designated representative of a TR NOx Annual source shall also apply to the owners and operators of such source and of the TR NOx Annual unit shall also apply to the owners and operators of such unit. 2) Any provision of the TR NOx Annual Trading Program that applies to a TR NOx Annual unit or the designated representative of a TR NOx Annual unit shall also apply to the owners and operators of such unit.	40 CFR 97.406(f)
TFAC 1 (13100071)	20880	Effect on other authorities. No provision of the TR NOx Annual Trading Program or exemption under 40 CFR Section 97.405 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR NOx Annual source or TR NOx Annual unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.	40 CFR 97.406(g)
TFAC 1 (13100071)	20890	Transport Rule (TR) SO2 Group 2 Trading Program Requirements. The Permittee shall comply with the TR SO2 Group 2 Trading Program Requirements contained in Appendix E.	40 CFR 97.730-735
TFAC 1 (13100071)	20900	Designated representative requirements. The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR Section 97.713 through 97.718.	40 CFR 97.706(a)

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TFAC 1 (13100071)	20910	<p>TR SO2 Group 2 Emissions monitoring, reporting, and recordkeeping requirements.</p> <p>1) The owners and operators, and the designated representative, of each TR SO2 Group 2 source and each TR SO2 Group 2 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Section 97.730 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 40 CFR Section 97.731 (initial monitoring system certification and recertification procedures), 40 CFR Section 97.732 (monitoring system out-of-control periods), 40 CFR Section 97.733 (notifications concerning monitoring), 40 CFR Section 97.734 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 40 CFR Section 97.735 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).</p> <p>2) The emissions data determined in accordance with 40 CFR Section 97.730 through 97.735 shall be used to calculate allocations of TR SO2 Group 2 allowances under 40 CFR Section 97.711(a)(2) and (b) and 40 CFR Section 97.712 and to determine compliance with the TR SO2 Group 2 emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR Section 97.730 through 97.735 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.</p>	40 CFR 97.706(b)
TFAC 1 (13100071)	20920	<p>TR SO2 Group 2 emissions limitation.</p> <p>i) As of the allowance transfer deadline (midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day)) for a control period in a given year, the owners and operators of each TR SO2 Group 2 source and each TR SO2 Group 2 unit at the source shall hold, in the source's compliance account, TR SO2 Group 2 allowances available for deduction for such control period under 40 CFR Section 97.724(a) in an amount not less than the tons of total SO2 emissions for such control period from all TR SO2 Group 2 units at the source.</p> <p>ii) If total SO2 emissions during a control period in a given year from the TR SO2 Group 2 units at a TR SO2 Group 2 source are in excess of the TR SO2 Group 2 emissions limitation set forth in paragraph 40 CFR Section 97.706(c)(1)(i) above, then: A) The owners and operators of the source and each TR SO2 Group 2 unit at the source shall hold the TR SO2 Group 2 allowances required for deduction under 40 CFR Section 97.724(d); and B) The owners and operators of the source and each TR SO2 Group 2 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart DDDDD and the Clean Air Act.</p>	40 CFR 97.706(c)(1)
TFAC 1 (13100071)	20930	<p>TR SO2 Group 2 assurance provisions.</p> <p>i) If total SO2 emissions during a control period in a given year from all TR SO2 Group 2 units at TR SO2 Group 2 sources in Minnesota and Indian country within the borders of Minnesota exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such SO2 emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR SO2 Group 2 allowances available for deduction for such control period under 40 CFR Section 97.725(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR Section 97.725(b), of multiplying— A) The quotient of the amount by which the common designated representative's share of such SO2 emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in Minnesota and Indian country within the borders of Minnesota for such control period, by which each common designated representative's share of such SO2 emissions exceeds the respective common designated representative's assurance level; and B) The amount by which total SO2 emissions from all TR SO2 Group 2 units at TR SO2 Group 2 sources in Minnesota and Indian country within the borders of Minnesota for such control period exceed the state assurance level.</p> <p>ii) The owners and operators shall hold the TR SO2 Group 2 allowances required under 40 CFR Section 97.706(c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.</p>	40 CFR 97.706(c)(2)(i)-(v)

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TFAC 1 (13100071)	20930	<p>iii) Total SO₂ emissions from all TR SO₂ Group 2 units at TR SO₂ Group 2 sources in Minnesota and Indian country within the borders of Minnesota during a control period in a given year exceed the state assurance level if such total SO₂ emissions exceed the sum, for such control period, of the state SO₂ Group 2 trading budget under 40 CFR Section 97.710(a) and the state's variability limit under 40 CFR Section 97.710(b).</p> <p>iv) It shall not be a violation of 40 CFR part 97, subpart DDDDD or of the Clean Air Act if total SO₂ emissions from all TR SO₂ Group 2 units at TR SO₂ Group 2 sources in Minnesota and Indian country within the borders of Minnesota during a control period exceed the state assurance level or if a common designated representative's share of total SO₂ emissions from the TR SO₂ Group 2 units at TR SO₂ Group 2 sources in Minnesota and Indian country within the borders of Minnesota during a control period exceeds the common designated representative's assurance level.</p> <p>v) To the extent the owners and operators fail to hold TR SO₂ Group 2 allowances for a control period in a given year in accordance with 40 CFR Section 97.706(c)(2)(i) through (iii) above, A.) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and B.) Each TR SO₂ Group 2 allowance that the owners and operators fails to hold for such control period in accordance with 40 CFR Section 97.706(c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart DDDDD and the Clean Air Act.</p>	40 CFR 97.706(c)(2)(i)-(v)
TFAC 1 (13100071)	20940	<p>Compliance Periods.</p> <p>i) A TR SO₂ Group 2 unit shall be subject to the requirements under 40 CFR Section 97.706(c)(1) above for the control period starting on the later of January 1, 2015 or the deadline for meeting the unit's monitor certification requirements under 40 CFR Section 97.730(b) and for each control period thereafter</p> <p>ii) A TR SO₂ Group 2 unit shall be subject to the requirements under 40 Section CFR 97.706(c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR Section 97.730(b) and for each control period thereafter.</p>	40 CFR 97.706(c)(3)
TFAC 1 (13100071)	20950	<p>Vintage of allowances held for compliance.</p> <p>i) A TR SO₂ Group 2 allowance held for compliance with the requirements under 40 CFR Section 97.706(c)(1)(i) above for a control period in a given year must be a TR SO₂ Group 2 allowance that was allocated for such control period or a control period in a prior year.</p> <p>ii) A TR SO₂ Group 2 allowance held for compliance with the requirements under 40 CFR Section 97.706(c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR SO₂ Group 2 allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.</p>	40 CFR 97.706(c)(4)
TFAC 1 (13100071)	20960	<p>Allowance Management System requirements.</p> <p>Each TR SO₂ Group 2 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart DDDDD.</p>	40 CFR 97.706(c)(5)
TFAC 1 (13100071)	20970	<p>Limited authorization.</p> <p>A TR SO₂ Group 2 allowance is a limited authorization to emit one ton of SO₂ during the control period in one year. Such authorization is limited in its use and duration as follows:</p> <p>i) Such authorization shall only be used in accordance with the TR SO₂ Group 2 Trading Program; and</p> <p>ii) Notwithstanding any other provision of 40 CFR part 97, subpart DDDDD, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.</p>	40 CFR 97.706(c)(6)
TFAC 1 (13100071)	20980	<p>Property right.</p> <p>A TR SO₂ Group 2 allowance does not constitute a property right.</p>	40 CFR 97.706(c)(7)

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TFAC 1 (13100071)	20990	<p>Additional recordkeeping and reporting requirements.</p> <p>1) Unless otherwise provided, the owners and operators of each TR SO2 Group 2 source and each TR SO2 Group p2 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.</p> <p>i) The certificate of representation under 40 CFR Section 97.716 for the designated representative for the source and each TR SO2 Group 2 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR Section 97.716 changing the designated representative.</p> <p>ii) All emissions monitoring information, in accordance with 40 CFR part 97, subpart DDDDD.</p> <p>iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR SO2 Group 2 Trading Program.</p> <p>2) The designated representative of a TR SO2 Group 2 source and each TR SO2 Group 2 unit at the source shall make all submissions required under the TR SO2 Group 2 Trading Program, except as provided in 40 CFR Section 97.718. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in parts 70 and 71.</p>	40 CFR 97.706(e)
TFAC 1 (13100071)	21000	<p>Liability.</p> <p>1) Any provision of the TR SO2 Group 2 Trading Program that applies to a TR SO2 Group 2 source or the designated representative of a TR SO2 Group 2 source shall also apply to the owners and operators of such source and of the TR SO2 Group 2 units at the source.</p> <p>2) Any provision of the TR SO2 Group 2 Trading Program that applies to a TR SO2 Group 2 unit or the designated representative of a TR SO2 Group 2 unit shall also apply to the owners and operators of such unit.</p>	40 CFR 97.706(f)
TFAC 1 (13100071)	21010	<p>Effect on other authorities.</p> <p>No provision of the TR SO2 Group 2 Trading Program or exemption under 40 CFR Section 97.705 shall be construed as exempting or excluding the owners or operators, and the designated representative, of a TR SO2 Group 2 source or TR SO2 Group 2 unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.</p>	40 CFR 97.706(g)
TFAC 1 (13100071)	21011	The Permittee shall comply with all acid rain requirements. These are included in the permit and also in the acid rain permit attached as Appendix C.	40 CFR pt. 72, 40 CFR pt. 73, 40 CFR pt. 75, 40 CFR pt. 76, Minn. R. 7007.1015
TFAC 1 (13100071)	21012	Acid Rain Application for Reissuance: The Permittee shall submit a complete Acid Rain permit application for each source with an affected unit at least 6 months prior to the expiration of an existing Acid Rain permit governing the unit during Phase II in accordance with 40 CFR Section 72.21.	40 CFR 72.21
EQUI 1 (EU007)	1	The Permittee shall limit emissions of Sulfur Dioxide \leq 0.32 pounds per million Btu heat input 30-day rolling average when combusting natural gas, including periods of startup, shutdown, and malfunction.	40 CFR 60.42b(k)(1), (e), and (g), Minn. R. 7011.0565
EQUI 1 (EU007)	2	The Permittee shall limit emissions of Nitrogen Oxides \leq 0.20 pounds per million Btu heat input 30-day rolling average including periods of startup, shutdown, or malfunction.	40 CFR 60.44b(l)(1), (h), and (i), Minn. R. 7011.0565
EQUI 1 (EU007)	3	Permitted Fuel Types - The Permittee is allowed to burn the following fuels in EQUI 1: Natural gas as defined in 40 CFR Section 72.2, except total sulfur content shall not exceed 0.8 grains/100 scf and the natural gas shall be obtained from a supplier through a pipeline.	Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 1 (EU007)	4	Applicability of PM and Opacity Limits: EQUI 1 was constructed after February 28, 2005 and combusts only gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less. Therefore, EQUI 1 is not subject to the PM or opacity limits in 40 CFR Section 60.43b.	40 CFR 60.43b(h)(5), Minn. R. 7011.0565
EQUI 1 (EU007)	5	The Permittee shall operate EQUI 1 in a manner consistent with good combustion practices to restrict emissions of PM, PM10, CO, and VOC.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 1 (EU007)	8	Control Equipment Operation: The Permittee shall operate the SCR system (TREA 7) at all times that any fuel is fired in EQUI 1, except during startup and shutdown.	Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000

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EQUI 1 (EU007)	10	Sulfur Dioxide Monitoring: demonstrate compliance by maintaining records of fuel supplier certifications of sulfur content of the fuels burned.	40 CFR 60.45b(j), 40 CFR 60.45b(k), 40 CFR 60.47b(g), Minn. R. 7011.0565
EQUI 1 (EU007)	11	The Permittee may use the NOx CEMS (installed to meet the requirements of part 75 and that is continuing to meet the ongoing requirements of part 75 of this chapter) to meet the NOx monitoring requirements of Section 60.48b, except that the Permittee shall also meet the requirements of Section 60.49b.	40 CFR 60.48b(b)(2), Minn. R. 7011.0565
EQUI 1 (EU007)	12	Fuel Usage Recordkeeping: Record and maintain records of the amounts of fuel combusted during each day and calculate the annual capacity factor for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.	40 CFR 60.49b(d), Minn. R. 7011.0565
EQUI 1 (EU007)	13	Recordkeeping: The owner or operator of an affected facility subject to the nitrogen oxides standards under section 60.44b shall maintain records of the following information for each steam generating unit operating day: (1) Calendar date. (2) The average hourly nitrogen oxides emission rates (expressed as NO2 in lb/million Btu heat input) measured or predicted. (3) The 30-day average nitrogen oxides emission rates (lb/million Btu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days. (4) Identification of the steam generating unit operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards under section 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken. (5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken. (6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data. (7) Identification of F factor used for calculations, method of determination, and type of fuel combusted. (8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system. (9) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3. (10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.	40 CFR 60.49b(g), Minn. R. 7011.0565
EQUI 1 (EU007)	14	Semiannual Compliance Report: due 31 calendar days after end of each calendar half-year starting 06/05/2007. The reports shall contain the information recorded under section 60.49b(g).	Minn. R. 7011.0565

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EQUI 1 (EU007)	4600	<p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>[40 CFR 60.1(a); 40 CFR 60.1(b); 40 CFR 60.1(c); 40 CFR 60.2; 40 CFR 60.3; 40 CFR 60.4; 40 CFR 60.5(a); 40 CFR 60.5(b); 40 CFR 60.6(a); 40 CFR 60.6(b); 40 CFR 60.7(a)(1); 40 CFR 60.7(a)(3); 40 CFR 60.7(a)(4); 40 CFR 60.7(a)(5); 40 CFR 60.7(a)(6); 40 CFR 60.7(a)(7); 40 CFR 60.7(b); 40 CFR 60.7(c); 40 CFR 60.7(d); 40 CFR 60.8(a); 40 CFR 60.8(b); 40 CFR 60.8(c); 40 CFR 60.8(d); 40 CFR 60.8(e); 40 CFR 60.8(f); 40 CFR 60.8(g); 40 CFR 60.8(h); 40 CFR 60.8(i); 40 CFR 60.9; 40 CFR 60.11(a); 40 CFR 60.11(b); 40 CFR 60.11(c); 40 CFR 60.11(d); 40 CFR 60.11(e)(1); 40 CFR 60.11(e)(2); 40 CFR 60.11(e)(3); 40 CFR 60.11(e)(4); 40 CFR 60.11(e)(5); 40 CFR 60.11(e)(6); 40 CFR 60.11(e)(7); 40 CFR 60.11(e)(8); 40 CFR 60.11(f); 40 CFR 60.11(g); 40 CFR 60.12; 40 CFR 60.13(a); 40 CFR 60.13(b); 40 CFR 60.13(c); 40 CFR 60.13(d)(1); 40 CFR 60.13(d)(2); 40 CFR 60.13(e)(1); 40 CFR 60.13(e)(2); 40 CFR 60.13(f); 40 CFR 60.13(g); 40 CFR 60.13(h)(1); 40 CFR 60.13(h)(2); 40 CFR 60.13(h)(3); 40 CFR 60.13(i)(1); 40 CFR 60.13(i)(2); 40 CFR 60.13(i)(3); 40 CFR 60.13(i)(4); 40 CFR 60.13(i)(5); 40 CFR 60.13(i)(6); 40 CFR 60.13(i)(7); 40 CFR 60.13(i)(8); 40 CFR 60.13(i)(9); 40 CFR 60.13(j)(1); 40 CFR 60.13(j)(2); 40 CFR 60.14(a); 40 CFR 60.14(b); 40 CFR 60.14(c); 40 CFR 60.14(e); 40 CFR 60.14(f); 40 CFR 60.14(g); 40 CFR 60.14(h); 40 CFR 60.14(i); 40 CFR 60.14(j); 40 CFR 60.14(k); 40 CFR 60.14(l); 40 CFR 60.15(a); 40 CFR 60.15(b); 40 CFR 60.15(c); 40 CFR 60.15(d); 40 CFR 60.15(e); 40 CFR 60.15(f); 40 CFR 60.15(g); 40 CFR 60.17; 40 CFR 60.19(a); 40 CFR 60.19(b); 40 CFR 60.19(c); 40 CFR 60.19(d); 40 CFR 60.19(e); 40 CFR 60.19(f)(1); 40 CFR 60.19(f)(2); 40 CFR 60.19(f)(3); and 40 CFR 60.19(f)(4).]</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix D. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 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.</p>	40 CFR pt. 60, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-1500, Minn. R. 7011.0050, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100
EQUI 2 (EU003)	1	The Permittee shall limit PM < 10 microns: less than or equal to 0.00042 lb/hp-hr at 15% oxygen using 3-hour average except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 2 (EU003)	2	The Permittee shall limit Particulate Matter: less than or equal to 0.00070 lb/hp-hr at 15% oxygen using 3-hour average except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 2 (EU003)	3	The Permittee shall limit Sulfur Dioxide: less than or equal to 0.00040 lb/hp-hr at 15% oxygen using 3-hour average including startup, shutdown, or malfunction.	Minn. R. 7011.2300, subp. 2, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 2 (EU003)	4	The Permittee shall limit Carbon Monoxide: less than or equal to 0.0055 lb/hp-hr at 15% oxygen using 3-hour average except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 2 (EU003)	5	The Permittee shall limit Volatile Organic Compounds: less than or equal to 0.00070 lb/hp-hr at 15% oxygen using 3-hour average except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 2 (EU003)	6	The Permittee shall limit Nitrogen Oxides: less than or equal to 0.024 lb/hp-hr at 15% oxygen using 3-hour average except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 2 (EU003)	7	The Permittee shall limit Operating Hours <= 10.0 hours per day on a calendar day basis starting at midnight each calendar day.	Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000
EQUI 2 (EU003)	8	The Permittee shall operate and maintain EQUI 2 in a manner consistent with good combustion practices to restrict emissions of PM, PM10, NOx, CO, and VOC.	40 CFR 60.4206, Minn. R. 7011.2305, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 2 (EU003)	9	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 80.510(c) only by design.	Minn. R. 7005.0100, subp. 35a, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 2 (EU003)	11	The Permittee shall limit Particulate Matter <= 0.54 grams per kilowatt-hour (0.40 g/hp-hr).	40 CFR 60.4205(a), 40 CFR 60.4212(d), Minn. R. 7011.2305
EQUI 2 (EU003)	12	The Permittee shall limit Carbon Monoxide <= 11.4 grams per kilowatt-hour (8.5 g/hp-hr).	40 CFR 60.4205(a), 40 CFR 60.4212(d), Minn. R. 7011.2305

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EQUI 2 (EU003)	13	The Permittee shall limit Hydrocarbons (I _r , Cc14 Ext Chromat) <= 1.3 grams per kilowatt-hour (1.0 g/hp-hr).	40 CFR 60.4205(a), 40 CFR 60.4212(d), Minn. R. 7011.2305
EQUI 2 (EU003)	14	The Permittee shall limit Nitrogen Oxides <= 9.2 grams per kilowatt-hour (6.9 g/hp-hr).	40 CFR 60.4205(a), 40 CFR 60.4212(d), Minn. R. 7011.2305
EQUI 2 (EU003)	18	The Permittee shall limit Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. The potential to emit from the unit is 0.0015 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(B)
EQUI 2 (EU003)	19	The Permittee shall: (1) Operate and maintain EQUI 2 and any associated control equipment according to the manufacturer's emission-related written instructions; (2) Change only those emission-related settings that are permitted by the manufacturer; and (3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply.	40 CFR 60.4211(a), Minn. R. 7011.2305
EQUI 2 (EU003)	20	The Permittee shall operate EQUI 2 according to the requirements in paragraphs (1) through (3). For EQUI 2 to be considered an emergency stationary ICE, 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 paragraphs (1) through (3), is prohibited. If EQUI 2 is not operated according to the requirements in paragraphs (1) through (3), it will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. (1) There is no time limit on the use of EQUI 2 in emergency situations. (2) The Permittee may operate EQUI 2 for any combination of the purposes specified in paragraphs (2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (3) counts as part of the 100 hours per calendar year allowed by this paragraph (2). (i) EQUI 2 may be operated for 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 owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of EQUI 2 beyond 100 hours per calendar year.	40 CFR 60.4211(f), Minn. R. 7011.2305
EQUI 2 (EU003)	20	(ii) EQUI 2 may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. (iii) EQUI 2 may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.	40 CFR 60.4211(f), Minn. R. 7011.2305

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EQUI 2 (EU003)	21	<p>(3) EQUI 2 may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (2). Except as provided in paragraph (3)(i) through (v), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.</p> <p>The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:</p> <p>(i) EQUI 2 is dispatched by the local balancing authority or local transmission and distribution system operator;</p> <p>(ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.</p> <p>(iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.</p> <p>(iv) The power is provided only to the facility itself or to support the local transmission and distribution system.</p> <p>(v) The Permittee identifies and records the entity that dispatches EQUI 2 and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.</p>	40 CFR 60.4211(f), Minn. R. 7011.2305
EQUI 2 (EU003)	22	The Permittee shall operate a non-resettable hour meter.	40 CFR 60.4209(a), Minn. R. 7011.2305
EQUI 2 (EU003)	24	<p>The Permittee shall demonstrate compliance according to one of the following methods:</p> <p>(1) Purchase an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.</p> <p>(2) Keep records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in 40 CFR 60 Subpart IIII and these methods must have been followed correctly.</p> <p>(3) Keep records of engine manufacturers data indicating compliance with the standards.</p> <p>(4) Keep records of control device vendor data indicating compliance with the standards.</p> <p>(5) Conduct an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR Section 60.4212, as applicable.</p>	40 CFR 60.4211(b), Minn. R. 7011.2305
EQUI 2 (EU003)	27	The Permittee shall keep records of the operation of EQUI 2 in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee shall record the time of operation of EQUI 2 and the reason EQUI 2 was in operation during that time.	40 CFR 60.4214(b), 40 CFR 60.7, Minn. R. 7011.0050, Minn. R. 7011.2305
EQUI 2 (EU003)	3520	Operating Hours Recordkeeping: At the end of each calendar day the Permittee shall calculate and record EQUI 2 operating hours for the calendar day.	Minn. R. 7007.0800, subps. 4&5, Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000
EQUI 2 (EU003)	3550	The Permittee shall limit Opacity <= 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
EQUI 2 (EU003)	3560	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year.	Minn. R. 7007.0800, subps. 4-5
EQUI 2 (EU003)	3565	The Permittee shall keep records of fuel type and usage on a monthly basis.	Minn. R. 7007.0800, subp. 5
EQUI 2 (EU003)	12250	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel oil, certifying that the sulfur content does not exceed 0.0015 percent by weight.	Minn. R. 7007.0800, subps. 4-5
EQUI 2 (EU003)	19531	EQUI 2 is a new affected source as defined under 40 CFR pt. 63, subp. ZZZZ, and the facility is an area source as defined at 40 CFR Section 63.2. The Permittee shall meet the requirements of 40 CFR pt. 63, subp. ZZZZ by meeting the requirements of 40 CFR pt. 60, subp. IIII. No further requirements of 40 CFR pt. 63, subp. ZZZZ apply to EQUI 2.	40 CFR 63.6590(c), Minn. R. 7011.8150

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EQUI 2 (EU003)	19532	<p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>[40 CFR 60.1(a); 40 CFR 60.1(b); 40 CFR 60.1(c); 40 CFR 60.2; 40 CFR 60.3; 40 CFR 60.4; 40 CFR 60.5(a); 40 CFR 60.5(b); 40 CFR 60.6(a); 40 CFR 60.6(b); 40 CFR 60.7(a)(1); 40 CFR 60.7(a)(3); 40 CFR 60.7(a)(4); 40 CFR 60.7(a)(5); 40 CFR 60.7(a)(6); 40 CFR 60.7(a)(7); 40 CFR 60.7(b); 40 CFR 60.7(c); 40 CFR 60.7(d); 40 CFR 60.8(a); 40 CFR 60.8(b); 40 CFR 60.8(c); 40 CFR 60.8(d); 40 CFR 60.8(e); 40 CFR 60.8(f); 40 CFR 60.8(g); 40 CFR 60.8(h); 40 CFR 60.8(i); 40 CFR 60.9; 40 CFR 60.12; 40 CFR 60.14(a); 40 CFR 60.14(b); 40 CFR 60.14(c); 40 CFR 60.14(e); 40 CFR 60.14(f); 40 CFR 60.14(g); 40 CFR 60.14(h); 40 CFR 60.14(i); 40 CFR 60.14(j); 40 CFR 60.14(k); 40 CFR 60.14(l); 40 CFR 60.15(a); 40 CFR 60.15(b); 40 CFR 60.15(c); 40 CFR 60.15(d); 40 CFR 60.15(e); 40 CFR 60.15(f); 40 CFR 60.15(g); 40 CFR 60.17; 40 CFR 60.19(a); 40 CFR 60.19(b); 40 CFR 60.19(c); 40 CFR 60.19(d); 40 CFR 60.19(e); 40 CFR 60.19(f)(1); 40 CFR 60.19(f)(2); 40 CFR 60.19(f)(3); and 40 CFR 60.19(f)(4).]</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix D. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 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.</p>	40 CFR pt. 60, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-1500, Minn. R. 7011.0050, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100
EQUI 10 (EU001)	1	<p>The Permittee shall limit Sulfur Dioxide \leq 150 parts per million by volume on a dry basis at 15 percent oxygen, or</p> <p>Sulfur content of fuel: less than or equal to 0.8 percent by weight.</p>	40 CFR 60.333, Minn. R. 7011.2350
EQUI 10 (EU001)	2	The Permittee shall limit Nitrogen Oxides: less than or equal to the fuel-specific value calculated according to the equation at 40 CFR Section 60.332(a)(1).	40 CFR 60.332(a)(1), Minn. R. 7011.2350
EQUI 10 (EU001)	3	The Permittee shall limit Sulfur Dioxide \leq 0.50 pounds per million Btu heat input. The potential to emit from the unit is 0.0015 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(A)
EQUI 10 (EU001)	4	The Permittee shall limit Sulfur Dioxide \leq 0.0015 pounds per million Btu heat input This limit is effective on January 1, 2018. The potential to emit from the unit is 0.0015 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(B)
EQUI 10 (EU001)	5	The Permittee shall limit Opacity \leq 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
EQUI 10 (EU001)	6	The Permittee shall operate EQUI 10 in a manner consistent with good combustion practices to restrict emissions of PM, PM10, CO, and VOC.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 10 (EU001)	7	Permitted Fuel Types - The permittee is allowed to burn the following fuels in EQUI 10: Natural gas as defined in 40 CFR Section 72.2, except total sulfur content shall not exceed 0.8 grains/100 scf and the natural gas shall be obtained from a supplier through a pipeline; and Distillate fuel oil with a sulfur content not to exceed 0.05% by weight.	Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 10 (EU001)	8	<p>Control Equipment Operation: The Permittee shall operate the following pollution control equipment under the following conditions, except during startup and shutdown:</p> <ol style="list-style-type: none"> The SCR system (TREA 7) at all times that any fuel is fired in EQUI 10; The dry low-NOx combustion system (TREA 1) in mode six when EQUI 10 is combusting natural gas; The water injection system (TREA 9) when EQUI 10 is combusting liquid fuel. 	Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000

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EQUI 10 (EU001)	10	<p>Operating Modes for EQUI 10:</p> <p>When burning natural gas, Normal Operating Mode begins 10 minutes after EQUI 10 operates in Mode 6Q and ends when EQUI 10 ceases operating in Mode 6Q.</p> <p>When burning approved liquid fuels, Normal Operating Mode begins when EQUI 10 operates above 90 MW and water injection is in service.</p> <p>Startup and Shutdown Operating Mode includes:</p> <ol style="list-style-type: none"> 1. All operating periods when burning natural gas other than operation in Normal Operating Mode. 2. All operating periods when burning liquid fuels other than operation in Normal Operating Mode. 3. Operation in Fuel Transfer Mode. Fuel Transfer Mode includes turbine controller operating periods when transferring to and from oil to gas plus the following 10 minutes. 	
EQUI 10 (EU001)	10	The Permittee shall track all Operating Modes with the Data Acquisition System (EQUI 19).	Minn. R. 7007.0800, subp. 2
EQUI 10 (EU001)	11	Fuel Monitoring: The Permittee shall follow the procedures in 40 CFR Sections 60.334(h) and (i) to monitor sulfur and nitrogen content of the fuels combusted in EQUI 10, unless the Permittee develops a custom schedule according to 40 CFR Section 60.334(i)(3).	40 CFR 60.334(h), 40 CFR 60.334(i), Minn. R. 7011.2350
EQUI 10 (EU001)	4600	<p>The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows:</p> <p>[40 CFR 60.1(a); 40 CFR 60.1(b); 40 CFR 60.1(c); 40 CFR 60.2; 40 CFR 60.3; 40 CFR 60.4; 40 CFR 60.5(a);40 CFR 60.5(b);40 CFR 60.6(a);40 CFR 60.6(b);40 CFR 60.7(a)(1);40 CFR 60.7(a)(3);40 CFR 60.7(a)(4);40 CFR 60.7(a)(5);40 CFR 60.7(a)(6);40 CFR 60.7(a)(7);40 CFR 60.7(b);40 CFR 60.7(c);40 CFR 60.7(d);40 CFR 60.8(a);40 CFR 60.8(b);40 CFR 60.8(c);40 CFR 60.8(d);40 CFR 60.8(e);40 CFR 60.8(f);40 CFR 60.8(g);40 CFR 60.8(h);40 CFR 60.8(i);40 CFR 60.9;40 CFR 60.11(a);40 CFR 60.11(b);40 CFR 60.11(c);40 CFR 60.11(d);40 CFR 60.11(e)(1);40 CFR 60.11(e)(2);40 CFR 60.11(e)(3);40 CFR 60.11(e)(4);40 CFR 60.11(e)(5);40 CFR 60.11(e)(6);40 CFR 60.11(e)(7);40 CFR 60.11(e)(8);40 CFR 60.11(f);40 CFR 60.11(g);40 CFR 60.12;40 CFR 60.13(a);40 CFR 60.13(b);40 CFR 60.13(c);40 CFR 60.13(d)(1);40 CFR 60.13(d)(2);40 CFR 60.13(e)(1);40 CFR 60.13(e)(2);40 CFR 60.13(f);40 CFR 60.13(g);40 CFR 60.13(h)(1);40 CFR 60.13(h)(2); 40 CFR 60.13(h)(3);40 CFR 60.13(i)(1);40 CFR 60.13(i)(2);40 CFR 60.13(i)(3);40 CFR 60.13(i)(4);40 CFR 60.13(i)(5);40 CFR 60.13(i)(6);40 CFR 60.13(i)(7);40 CFR 60.13(i)(8);40 CFR 60.13(i)(9);40 CFR 60.13(j)(1);40 CFR 60.13(j)(2);40 CFR 60.14(a);40 CFR 60.14(b);40 CFR 60.14(c);40 CFR 60.14(e);40 CFR 60.14(f);40 CFR 60.14(g);40 CFR 60.14(h);40 CFR 60.14(i);40 CFR 60.14(j);40 CFR 60.14(k);40 CFR 60.14(l);40 CFR 60.15(a);40 CFR 60.15(b);40 CFR 60.15(c);40 CFR 60.15(d);40 CFR 60.15(e);40 CFR 60.15(f);40 CFR 60.15(g);40 CFR 60.17;40 CFR 60.19(a);40 CFR 60.19(b);40 CFR 60.19(c);40 CFR 60.19(d);40 CFR 60.19(e);40 CFR 60.19(f)(1);40 CFR 60.19(f)(2);40 CFR 60.19(f)(3); and40 CFR 60.19(f)(4).]</p> <p>A copy of 40 CFR pt. 60, subp. A is included in Appendix D. If the standard changes or upon adoption of a new or amended federal applicable requirement, and if there are more than 3 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.</p>	40 CFR pt. 60, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-1500, Minn. R. 7011.0050, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100
EQUI 15 (EU008)	1	The Permittee shall limit Particulate Matter <= 0.40 pounds per million Btu heat input [The potential to emit from the unit is 0.014 lb/MMBtu due to equipment design and allowable fuels.].	Minn. R. 7011.0515, subp. 1
EQUI 15 (EU008)	2	The Permittee shall limit 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 17	1	Recordkeeping: The Permittee shall automatically record the 3-hour average ppmvd @15% oxygen NOx emissions data generated by the NOx CEMS (EQUI 17).	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 17	2	The CEMS/COMS requirements listed below outline the typical standards of 40 CFR Pt. 75. Additional monitoring requirements may also apply to the Facility based on the standard and it is the responsibility of the Facility to meet all applicable requirements.	Minn. R. 7007.0800, subp. 4(A)
EQUI 17	4	Certification Application: The owner or operator shall apply for certification of each continuous emission or opacity monitoring system used under the Acid Rain Program. The owner or operator shall submit the certification application in accordance with 40 CFR Section 75.60 and each complete certification application shall include the information specified in Section 75.63.	40 CFR 75.20(a)(2), 40 CFR 75.60(b)(1), 40 CFR 75.62, 40 CFR 75.63, Minn. R. 7017.1060, Minn. R. 7017.1080

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EQUI 17	6	CEMS QA/QC: The owner or operator of an affected facility shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 75, Appendix B as amended.	40 CFR 75.21(a)
EQUI 17	7	Daily Calibration error (CE) Test: conduct daily CE testing on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, appendix B.	40 CFR pt. 75, Appendix B(Sect 2.1)
EQUI 17	8	The Permittee shall conduct linearity and leak check : Due by the end of each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2.	40 CFR pt. 75, Appendix B, 2.2
EQUI 17	9	The Permittee shall conduct CEMS relative accuracy test audit (RATA) : Due semiannually. In accordance with 40 CFR pt. 75, Appendix B, this means once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours) on all CEMS required by the Acid Rain Program. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Sections 2.3.1.2(a) through 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, 2.3
EQUI 17	10	Monitoring Data: Hourly averages shall be computed using at least one data point in each fifteen minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an hourly average may be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour) if data is unavailable as a result of the performance of calibration, quality assurance, or preventive maintenance activities pursuant to 40 CFR Section 75.21 and appendix B of 40 CFR pt. 75, or backups of data from the data acquisition and handling system, or recertification, pursuant to 40 CFR Section 75.20. The owner or operator shall use all valid measurements or data points collected during an hour to calculate the hourly averages. All data points collected during an hour shall be, to the extent practicable, evenly spaced over the hour.	40 CFR 75.10(d)(1)
EQUI 17	11	Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information (including measurements, data, reports, and other required information) for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	40 CFR 60.7(f), 40 CFR 75.57, Minn. R. 7017.1130
EQUI 17	12	Quarterly Reports: Electronically report the data and information in 40 CFR Section 75.64 (a), (b), and (c) to the Administrator quarterly.	40 CFR 75.64
EQUI 17	14	The CEMS/COMS requirements listed below outline the typical standards of 40 CFR pt. 60 when combined with Minn. R. Additional monitoring requirements may also apply to the Facility based on this combination of standards and it is the responsibility of the Facility to meet all applicable requirements.	Minn. R. 7017.1010
EQUI 17	15	The Permittee shall conduct CEMS cylinder gas audit (CGA) : Due semiannually (end of every second QA operating quarter in which there are at least 168 unit operating hours) except that a CGA is not required during any quarter in which a RATA was performed. The initial CGA must be performed within 180 days following certification of the CEMS. The CGAs shall be conducted according to the procedures outlined in Minn. R. 7017.1170, subp 4a(A). If the monitored emission unit is not in operation on the CGA due date, the owner or operator has a grace period of 168 operating hours to perform the CGA.	40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7017.1170, subp. 4
EQUI 17	16	The Permittee shall conduct a relative accuracy test audit : Due annually (end of every fourth QA operating quarter). RATAs shall be conducted and frequency may be reduced according to the procedures outlined in Minn. R. 7017.1170, subp. 5a. If the monitored emission unit is not in operation on the RATA due date, the owner or operator has a grace period of 720 operating hours to perform the RATA.	40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7017.1170, 5a
EQUI 17	17	Certification Test Plan due 30 days before Certification Test. Certification Test Pretest Meeting due 7 days before Certification Test. Certification Test Report due 45 days after Certification Test. The Test Plan and Test Report must be submitted in a format specified by the commissioner.	40 CFR 60.7(a)(5), Minn. R. 7017.1060, subp. 1-3, Minn. R. 7017.1080
EQUI 17	18	Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.	40 CFR 60.13(e), Minn. R. 7017.1090

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EQUI 17	19	QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR Part 60, Appendix F, Section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list.	40 CFR pt. 60, Appendix F, 3, Minn. R. 7017.1170, subp. 2
EQUI 17	20	CEMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection.	40 CFR 60.13(a), 40 CFR pt. 60, Appendix F
EQUI 17	21	CEMS Daily Calibration Drift Test: Check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, Section 4.3.1 shall be used to determine out-of-control periods for CEMS.	40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, 4.1, Minn. R. 7017.1170, subp. 3
EQUI 17	22	CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period.	40 CFR 60.13(e)(2)
EQUI 17	23	CEMS Certification/Recertification Test: due 90 days after the first excess emissions report required for the CEMS or any change which invalidates the monitor's certification status as outlined in Minn. R. 7017.1050, subp. 2.	40 CFR 60.13(b), 40 CFR 75.4(e), Minn. R. 7017.1050, subp. 1
EQUI 17	24	Monitoring Data: All data points collected by a CEMS shall be used to calculate individual hourly emission averages unless another applicable requirement requires more frequent averaging. In order for an hour of data to be considered valid, it must contain the following minimum number of data points: A. four data points, equally spaced, if the emission unit operated during the entire hour; B. two data points, at least 15 minutes apart, during periods of monitor calibration or routine maintenance; C. one data point if the emission unit operated for 15 minutes or less during the hour.	Minn. R. 7017.1160, subp. 1-2
EQUI 17	25	CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily according to the procedures listed in Minn. R. 7017.1170, subp. 3(A) and (B), 40 CFR Section 60.13(d)(1) or 40 CFR pt. 75, Appendix B as applicable for each pollutant concentration, each diluent monitor, and for each monitor range. If no span value is specified in the applicable requirement or in a compliance document, the Permittee shall use a span value equivalent to 1.5 times the emission limit.	Minn. R. 7017.1170, subp. 3
EQUI 17	28	Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA).	Minn. R. 7017.1180, subp. 2
EQUI 17	29	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted.	Minn. R. 7017.1180, subp. 3
EQUI 17	30	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted.	Minn. R. 7017.1180, subp. 1
EQUI 17	31	Emissions Monitoring: The owner or operator shall use a CEMS to measure emissions from STRU 5.	40 CFR 75.21(a)
EQUI 18	1	The CEMS requirements listed below outline the typical standards of Minnesota Rules. Additional monitoring requirements may also apply to the Facility based on the combination of applicable standards. It is the responsibility of the Facility to meet all applicable requirements.	Minn. R. 7017.1010
EQUI 18	2	CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period.	Minn. R. 7017.1140
EQUI 18	3	Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.	Minn. R. 7017.1090
EQUI 18	4	Monitoring Data: All data points collected by a CEMS shall be used to calculate individual hourly emission averages unless another applicable requirement requires more frequent averaging. In order for an hour of data to be considered valid, it must contain the following minimum number of data points: A. four data points, equally spaced, if the emission unit operated during the entire hour; B. two data points, at least 15 minutes apart, during periods of monitor calibration or routine maintenance; C. one data point if the emission unit operated for 15 minutes or less during the hour.	Minn. R. 7017.1160, subp. 1-2

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EQUI 18	5	Recordkeeping: The Permittee shall automatically record the 3-hour average ppmvd @15% oxygen CO emissions data generated by the CO CEMS (EQUI 18).	Minn. R. 7007.0800, subp. 5, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 18	6	CEMS Certification/Recertification Test: due 90 days after the first excess emissions report required for the CEMS or any change which invalidates the monitor's certification status as outlined in Minn. R. 7017.1050, subp. 2.	Minn. R. 7017.1050, subp. 1
EQUI 18	7	Additional Certification Requirements For CO CEMS (EQUI 18) CO CEMS Certification Test Plan: due 30 days before CO CEMS Certification Test CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test for each CEMS CEMS Certification Test Report: due 45 days after CEMS Certification Test for each CEMS CEMS Certification Test Report - Microfiche Copy: due 105 days after CEMS Certification Test for each CEMS The Notification, Test Plan, and Test Report may be submitted in alternate format as allowed by Minn. R. 7017.1120, subp. 2.	Minn. R. 7017.1060, Minn. R. 7017.1080
EQUI 18	8	Certification Test Plan due 30 days before Certification Test. Certification Test Pretest Meeting due 7 days before Certification Test. Certification Test Report - Microfiche Copy due 105 days after Certification Test. Certification Test Report due 45 days after Certification Test. The Notification, Test Plan, and Test Report may be submitted in alternate format as allowed by Minn. R. 7017.1120, subp. 2.	Minn. R. 7017.1060, subp. 1-3, Minn. R. 7017.1080, subp. 1-4
EQUI 18	9	CEMS Daily Calibration Drift Test: Check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, Section 4.3.1 shall be used to determine out-of-control periods for CEMS.	Minn. R. 7017.1170, subp. 3
EQUI 18	10	The Permittee shall conduct a relative accuracy test audit : Due one of each four calendar quarters. RATAs shall be conducted according to the procedures outlined in Minn. R. 7017.1170, subp. 5a(A).	40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7017.1170, subp. 5a
EQUI 18	11	The Permittee shall conduct a cylinder gas audit : Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. The CGAs shall be conducted according to the procedures outline in Minn. R. 7017.1170, subp. 4a(A).	40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7017.1170, subp. 4
EQUI 18	12	QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR Part 60, Appendix F, Section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list.	Minn. R. 7017.1170, subp. 2
EQUI 18	13	Relative Accuracy Test Audit (RATA) Notification: due 30 days before the CEMS RATA.	Minn. R. 7017.1180, subp. 2
EQUI 18	14	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted.	Minn. R. 7017.1180, subp. 3
EQUI 18	15	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted.	Minn. R. 7017.1180, subp. 1
EQUI 18	16	Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130
EQUI 18	18	The Permittee shall conduct CEMS cylinder gas audit (CGA) for the STRU 5 CO CEMS: Due semiannually (end of every second QA operating quarter in which there are at least 168 unit operating hours) except that a CGA is not required during any quarter in which a RATA was performed. The initial CGA must be performed within 180 days following certification of the CEMS. The CGAs shall be conducted according to the procedures outlined in Minn. R. 7017.1170, subp 4a(A). If the monitored emission unit is not in operation on the CGA due date, the owner or operator has a grace period of 168 operating hours to perform the CGA.	Minn. R. 7017.1170, subp. 4a
EQUI 20 (EU009)	1	The Permittee shall limit 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 20 (EU009)	2	The Permittee shall limit 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

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EQUI 21	5	Recordkeeping: The Permittee shall automatically record the 3-hour average ppmvd @15% oxygen NOx emissions data generated by the NOx CEMS (EQUI 17).	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
EQUI 21	6	The CEMS/COMS requirements listed below outline the typical standards of 40 CFR Pt. 75. Additional monitoring requirements may also apply to the Facility based on the standard and it is the responsibility of the Facility to meet all applicable requirements.	Minn. R. 7007.0800, subp. 4(A)
EQUI 21	7	Monitoring Data: Hourly averages shall be computed using at least one data point in each fifteen minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an hourly average may be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour) if data is unavailable as a result of the performance of calibration, quality assurance, or preventive maintenance activities pursuant to 40 CFR Section 75.21 and appendix B of 40 CFR pt. 75, or backups of data from the data acquisition and handling system, or recertification, pursuant to 40 CFR Section 75.20. The owner or operator shall use all valid measurements or data points collected during an hour to calculate the hourly averages. All data points collected during an hour shall be, to the extent practicable, evenly spaced over the hour.	40 CFR 75.10(d)(1)
EQUI 21	8	Certification Application: The owner or operator shall apply for certification of each continuous emission or opacity monitoring system used under the Acid Rain Program. The owner or operator shall submit the certification application in accordance with 40 CFR Section 75.60 and each complete certification application shall include the information specified in Section 75.63.	40 CFR 75.20(a)(2), 40 CFR 75.60(b)(1), 40 CFR 75.62, 40 CFR 75.63, Minn. R. 7017.1060, Minn. R. 7017.1080
EQUI 21	11	CEMS QA/QC: The owner or operator of an affected facility shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 75, Appendix B as amended.	40 CFR 75.21(a)
EQUI 21	12	Daily Calibration error (CE) Test: conduct daily CE testing on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, appendix B.	40 CFR pt. 75, Appendix B(Sect 2.1)
EQUI 21	13	The Permittee shall conduct linearity and leak check : Due by the end of each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2.	40 CFR pt. 75, Appendix B, 2.2
EQUI 21	14	The Permittee shall conduct CEMS relative accuracy test audit (RATA) : Due semiannually. In accordance with 40 CFR pt. 75, Appendix B, this means once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours) on all CEMS required by the Acid Rain Program. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Sections 2.3.1.2(a) through 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, 2.3
EQUI 21	15	Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information (including measurements, data, reports, and other required information) for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	40 CFR 60.7(f), 40 CFR 75.57, Minn. R. 7017.1130
EQUI 21	16	Quarterly Reports: Electronically report the data and information in 40 CFR Section 75.64 (a), (b), and (c) to the Administrator quarterly.	40 CFR 75.64
EQUI 21	17	The CEMS/COMS requirements listed below outline the typical standards of 40 CFR pt. 60 when combined with Minn. R. Additional monitoring requirements may also apply to the Facility based on this combination of standards and it is the responsibility of the Facility to meet all applicable requirements.	Minn. R. 7017.1010
EQUI 21	18	CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period.	40 CFR 60.13(e)(2)
EQUI 21	19	Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.	40 CFR 60.13(e), Minn. R. 7017.1090
EQUI 21	20	CEMS Certification/Recertification Test: due 90 days after the first excess emissions report required for the CEMS or any change which invalidates the monitor's certification status as outlined in Minn. R. 7017.1050, subp. 2.	40 CFR 60.13(b), 40 CFR 75.4(e), Minn. R. 7017.1050, subp. 1

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EQUI 21	21	QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR Part 60, Appendix F, Section 3. The plan shall include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list.	40 CFR pt. 60, Appendix F, 3, Minn. R. 7017.1170, subp. 2
EQUI 21	22	CEMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection.	40 CFR 60.13(a), 40 CFR pt. 60, Appendix F
EQUI 21	23	CEMS Daily Calibration Drift Test: Check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, Section 4.3.1 shall be used to determine out-of-control periods for CEMS.	40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, 4.1, Minn. R. 7017.1170, subp. 3
EQUI 21	24	The Permittee shall conduct a cylinder gas audit : Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. The CGAs shall be conducted according to the procedures outlined in Minn. R. 7017.1170, subp 4a(A).	40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7017.1170, subp. 4
EQUI 21	25	The Permittee shall conduct a relative accuracy test audit : Due one of each four calendar quarters.	40 CFR pt. 60, Appendix F, 5.1.1
EQUI 21	26	Certification Test Plan due 30 days before Certification Test. Certification Test Pretest Meeting due 7 days before Certification Test. Certification Test Report due 45 days after Certification Test. The Test Plan and Test Report must be submitted in a format specified by the commissioner.	40 CFR 60.7(a)(5), Minn. R. 7017.1060, subp. 1-3, Minn. R. 7017.1080
EQUI 21	27	Monitoring Data: All data points collected by a CEMS shall be used to calculate individual hourly emission averages unless another applicable requirement requires more frequent averaging. In order for an hour of data to be considered valid, it must contain the following minimum number of data points: A. four data points, equally spaced, if the emission unit operated during the entire hour; B. two data points, at least 15 minutes apart, during periods of monitor calibration or routine maintenance; C. one data point if the emission unit operated for 15 minutes or less during the hour.	Minn. R. 7017.1160, subp. 1-2
EQUI 21	28	CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily according to the procedures listed in Minn. R. 7017.1170, subp. 3(A) and (B), 40 CFR Section 60.13(d)(1) or 40 CFR pt. 75, Appendix B as applicable for each pollutant concentration, each diluent monitor, and for each monitor range. If no span value is specified in the applicable requirement or in a compliance document, the Permittee shall use a span value equivalent to 1.5 times the emission limit.	Minn. R. 7017.1170, subp. 3
EQUI 21	31	Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA).	Minn. R. 7017.1180, subp. 2
EQUI 21	33	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted.	Minn. R. 7017.1180, subp. 1
EQUI 21	36	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted.	Minn. R. 7017.1180, subp. 3
STRU 5 (SV001)	1	The Permittee shall limit PM < 10 micron \leq 0.010 pounds per million Btu heat input 3-hour average when EQUI 10 combusts natural gas, or when EQUI 10 and EQUI 1 combust natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	3	The Permittee shall limit PM < 10 micron \leq 0.030 pounds per million Btu heat input 3-hour average when EQUI 10 combusts distillate fuel oil and EQUI 1 is not operating or when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	4	The Permittee shall limit Particulate Matter \leq 0.010 pounds per million Btu heat input 3-hour average when EQUI 10 combusts natural gas, or when EQUI 10 and EQUI 1 combust natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	6	The Permittee shall limit Particulate Matter \leq 0.030 pounds per million Btu heat input 3-hour average when EQUI 10 combusts distillate fuel oil and EQUI 1 is not operating or when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000

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STRU 5 (SV001)	7	The Permittee shall limit Sulfur Dioxide: less than or equal to 0.8 grains of sulfur/100 standard cubic feet of natural gas on a calendar year average. This limit applies at all times including startup, shutdown, and malfunction. This limit is equivalent to 0.00227 lb SO ₂ /mmBtu @ 1005 Btu/scf.	40 CFR 60.333, Minn. R. 7011.2300, subp. 2, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	8	The Permittee shall limit Sulfur Dioxide <= 0.051 pounds per million Btu heat input when combusting distillate fuel oil. This limit is equivalent to a sulfur content of 0.05% by weight and applies at all times including startup, shutdown, and malfunction.	40 CFR 60.333, Minn. R. 7011.2300, subp. 2, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	9	The Permittee shall limit Carbon Monoxide <= 9.0 parts per million 3-hour average by volume on a dry basis corrected to 15% O ₂ when EQUI 10 combusts natural gas and EQUI 1 is not operating. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	10	The Permittee shall limit Carbon Monoxide <= 20.0 parts per million 3-hour average by volume on a dry basis corrected to 15% O ₂ when EQUI 10 combusts distillate fuel oil and EQUI 1 is not operating. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	11	The Permittee shall limit Carbon Monoxide <= 11.0 parts per million 3-hour average by volume on a dry basis corrected to 15% O ₂ when EQUI 10 combusts natural gas and EQUI 1 combusts natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	12	The Permittee shall limit Carbon Monoxide <= 23.0 parts per million 3-hour average by volume on a dry basis corrected to 15% O ₂ when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	13	The Permittee shall limit Volatile Organic Compounds <= 1.5 parts per million 3-hour average by volume on a dry basis corrected to 15% O ₂ when EQUI 10 combusts natural gas and EQUI 1 is not operating. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	14	The Permittee shall limit Volatile Organic Compounds <= 3.0 parts per million 3-hour average by volume on a dry basis corrected to 15% O ₂ when EQUI 10 combusts natural gas and EQUI 1 combusts natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	15	The Permittee shall limit Volatile Organic Compounds <= 3.5 parts per million 3-hour average by volume on a dry basis corrected to 15% O ₂ when EQUI 10 combusts distillate fuel oil and EQUI 1 is not operating or when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	16	The Permittee shall limit Nitrogen Oxides <= 3.0 parts per million 3-hour average by volume on a dry basis corrected to 15% O ₂ when EQUI 10 combusts natural gas and EQUI 1 is not operating, or when EQUI 10 and EQUI 1 combust natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	40 CFR 60.332(a)(1), Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	18	The Permittee shall limit Nitrogen Oxides <= 6.0 parts per million 3-hour average by volume on a dry basis corrected to 15% O ₂ when EQUI 10 combusts distillate fuel oil and EQUI 1 is not operating or when EQUI 10 combusts distillate fuel oil and EQUI 1 combusts natural gas. This limit applies at all times except during startup, shutdown, or malfunction.	40 CFR 60.332(a)(1), Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	19	Startup and Shutdown While Combusting Natural Gas: Not to exceed 1255 hours per year on a 12-month rolling sum.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	20	Startup and Shutdown While Combusting Distillate Fuel Oil: Not to exceed 485 hours per year on a 12-month rolling sum.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	21	The Permittee shall only use STRU 5 to vent emissions to the atmosphere from the combined cycle operation of the combustion turbine generator (EQUI 10) and duct burner (EQUI 1).	Title I Condition: 40 CFR 52.21(k)(modeling) & Minn. R. 7007.3000
STRU 5 (SV001)	22	Control Equipment Operation During Startup and Shutdown: Operation of TREA 7, TREA 8, and TREA 9 is not required during EQUI 10 startup or shutdown.	Minn. R. 7007.0800, subp. 2
STRU 5 (SV001)	23	The owner/operator shall operate the unit in compliance with all acid rain permit conditions in this permit and the acid rain permit application in the appendix of this permit.	40 CFR 72.9(a)

Subject Item ID	Seq. #	Requirement	Citation
STRU 5 (SV001)	24	PM < 10 micron : The Permittee shall conduct a performance test : Due before 08/10/2022 every 60 months to measure emissions. The first test is due by the date specified and all subsequent tests are due by the end of each 60-month period following that date. The performance test shall be conducted using EPA Reference Method 201A and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date satisfies the performance test due date, and will not reset the test due date for future testing as required: 1) by this permit; 2) by the most recently approved Performance Test Frequency Plan; or 3) within a Notice of Compliance letter. Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement and will reset the performance test due date.	40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000, Minn. R. 7017.2020, subp. 1
STRU 5 (SV001)	25	PM : The Permittee shall conduct a performance test : Due before 08/10/2022 every 60 months to measure emissions. The first test is due by the date specified and all subsequent tests are due by the end of each 60-month period following that date. The performance test shall be conducted using EPA Reference Method 5 and 202, or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date satisfies the performance test due date, and will not reset the test due date for future testing as required: 1) by this permit; 2) by the most recently approved Performance Test Frequency Plan; or 3) within a Notice of Compliance letter. Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement and will reset the performance test due date.	40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000, Minn. R. 7017.2020, subp. 1
STRU 5 (SV001)	26	Volatile Organic Compounds : The Permittee shall conduct a performance test : Due before 08/10/2022 every 60 months to measure emissions. The first test is due by the date specified and all subsequent tests are due by the end of each 60-month period following that date. The performance test shall be conducted using EPA Reference Method 25A or other method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date satisfies the performance test due date, and will not reset the test due date for future testing as required: 1) by this permit; 2) by the most recently approved Performance Test Frequency Plan; or 3) within a Notice of Compliance letter. Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement and will reset the performance test due date.	40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000, Minn. R. 7017.2020, subp. 1
STRU 5 (SV001)	27	The permittee shall conduct the required periodic performance tests for PM, PM10, and VOCs while combusting natural gas, unless EQUI 10 combusted fuel oil for 100 hours or more during any 12 consecutive month period ending after the most recently-conducted periodic performance test. In that case, the permittee shall conduct the performance test when combusting fuel oil in EQUI 10. With this exception, the permittee shall conduct the performance tests for PM, PM10, and VOCs at worst case conditions as defined at Minn. R. 7017.2025, subp. 2.	40 CFR 52.21(j)(BACT)& Minn. R. 7007.3000, Minn. R. 7017.2020, 1
STRU 5 (SV001)	28	Recordkeeping - Fuel Sulfur Content: The Permittee shall record the results of each fuel sulfur analysis.	Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000
STRU 5 (SV001)	29	Nitrogen Oxides: Emissions Monitoring: The owner or operator shall use a CEMS to measure emissions from STRU 5. The Permittee shall measure NOx emissions in ppmvd corrected to 15% oxygen and automatically calculate and record the 3-hour average NOx emission rate. NOx ppmvd emission date shall also be converted to lb/mmBtu as required by part 75.	40 CFR 60.334, 40 CFR 64.3(d)(1), 40 CFR 75.10, 40 CFR pt. 60, subp. Db, 40 CFR pt. 60, subp. GG, Minn. R. 7007.0800, subp. 4, Minn. R. 7011.0565, Minn. R. 7011.2350, Minn. R. 7017.1010, subp. 1, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	31	Oxygen: Emissions Monitoring: The owner or operator shall use a CEMS to measure emissions from STRU 5.	40 CFR pt. 60, subp. Db, Minn. R. 7007.0800, subp. 4, Minn. R. 7017.1010, subp 1, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000

Subject Item ID	Seq. #	Requirement	Citation
STRU 5 (SV001)	32	Carbon Monoxide: Emissions Monitoring: The Permittee shall use a CEMS to measure CO emissions from STRU 5 in ppmvd corrected to 15% oxygen. The Permittee shall automatically calculate and record the 3-hour average CO emission rate.	Minn. R. 7007.0800, subp. 4, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	34	Hold allowances after January 1, 2001, as of the allowance transfer deadline, in the unit's compliance subaccount. Allowances may not be less than the total annual emissions of sulfur dioxide from the previous calendar year from the unit.	40 CFR 72.9(c)
STRU 5 (SV001)	35	Recordkeeping - Gross Electric Power Output: The Permittee shall operate and maintain instrumentation that instantaneously measures and electronically records EQUI 10 gross power output (in megawatts) at all times during operation of the EQUI 10.	Minn. R. 7007.0800, subp. 5, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	36	Daily Startup and Shutdown Operating Hours Recordkeeping: Once each day the Permittee shall calculate and record EQUI 10 startup and shutdown operating hours for the previous calendar day. Separate records shall be kept for each permitted fuel type. Startup and shutdown operating hours shall be determined using the electronic data produced by instrumentation that instantaneously measures EQUI 10 gross electric power output.	Minn. R. 7007.0800, subp. 5, Title I Condition: 40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000
STRU 5 (SV001)	37	Monthly Startup and Shutdown Operating Hours Recordkeeping: By the 15th day of each month, the Permittee shall calculate and record the total EQUI 10 startup and shutdown operating hours for the previous month and for the previous 12-month period, for each permitted fuel.	Minn. R. 7007.0800, subps. 4-5
STRU 5 (SV001)	38	If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR Section 72.9(e).	40 CFR 72.9(e)