

**Technical Support Document
for
Draft Air Emission Permit No. 05300002-101**

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: 4961 - Steam and Air-Conditioning Supply)
Hennepin County Energy Center 600 10th Ave S Minneapolis, Minnesota 55415	Hennepin County Energy Center 600 10th Ave S Minneapolis, MN 55415
Contact: Mark Jeffson Phone: 612-436-4155	

1.2 Facility description

Hennepin County Energy Center (HCEC) is a fossil-fuel fired boiler plant that provides steam and chilled water to customers located in the downtown Minneapolis area. The sources discharging emissions to the air are five boilers, designated as Boiler Nos. 2, 3, 4, 5, and 6, and an emergency-only diesel generator. Boilers 2, 3, and 4 vent to a common stack. Boilers 5 and 6 each vent to individual stacks.

This permit action recognizes the removal of Boiler 1, and makes federally enforceable a change to the allowed fuels. The facility will no longer combust residual oil as a back up fuel, and distillate oil will be limited to 0.0015% sulfur by weight. These changes result in a significant decrease in sulfur dioxide emissions.

1.3 Description of the activities allowed by this permit action

This permit action is Part 70 Reissuance.

The Minnesota Pollution Control Agency (MPCA) has a combined operating and construction permitting program under Minnesota Rules Chapter 7007, and under Minn. R. 7007.0800. Under that authority, this permit action includes the changes requested through a major amendment application received October 26, 2015. That application requested changes to make use of low sulfur fuel oil federally enforceable, and changes to recordkeeping and reporting associated with that change and with the removal of Boiler 1.

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
10/26/2015	Major Amendment (IND20150001)
05/23/2012	Part 70 Reissuance (IND20120001)

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	40.5	22.3	17.1	2.6	164.3	142.8	273447	9.4	3.0	4.0
Total facility actual emissions (2016)	0.20	0.18	0.14	0.29	37.13	22.27	32839	1.46	*	

*Not reported in Minnesota emission inventory.

Table 4. Facility classification

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

1.6 Changes to permit

The 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.
- Completed requirements and the requirements for equipment that has been removed have been deleted.
- Some requirements have been reordered to help with clarity.
- Boiler 1 has been removed from the permit.
- Revised SO₂ modeling requirements and modeled parameters based on most recent modeling completed for this permit action.
- Removed GP002 and GP003 and put the requirements with the individual boilers to which they apply.
- Renamed COMG 1 “Synthetic Minor NOX Limit.”
- Renamed COMG 4 “Boiler Fuel Usage Limits;” these are synthetic minor limits set through a previous permit action, plus an additional limit further restricting the sulfur content of fuel oil.
- Removed the SO₂ emission limits that were based on previous modeling analyses (COMG 4, and EQUI 6 and EQUI 7); these limits are no longer relevant since the facility is accepting conditions further limiting sulfur content in fuel oil. New modeling based on the new potential emission rates (which are significantly lower than the previous SO₂ limits) demonstrates compliance with the SO₂ national ambient air quality standards.
- Removed SO₂ tracking requirements in favor of fuel certifications including fuel sulfur content.
- Requirements of 40 CFR 63 Subpart ZZZZ have been added for the emergency generator.
- Conditions necessary to avoid applicability of 40 CFR 63 Subpart JJJJJ (limits on non-emergency use of fuel oil) have been added to each of the boilers.

2. Regulatory and/or statutory basis

2.1 New source review (NSR)

The facility is a major source under NSR, as it belongs to one of the 28 source categories (Fossil-Fuel Boilers (or combination thereof) totaling more than 250 Million British Thermal Units per hour (MMBTU/hr) – combined capacity of the five fossil fuel boilers is 390 MMBTU/hr). Air dispersion modeling has been performed to demonstrate compliance with ambient air quality standards, and as a result, portions of the facility were subject to sulfur dioxide emission limits developed to be protective of the ambient standards. Due to the removal of Boiler 1 and the change in allowable fuels, the potential sulfur dioxide emissions are now significantly below the rate at which compliance with standards was initially modeled, and those SO₂ emission limits that were higher than the current potential emissions have been removed from the permit.

2.2 Part 70 permit program

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

2.3 New source performance standards (NSPS)

One of the boilers (EQUI 1) is subject to NSPS Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

2.4 National emission standards for hazardous air pollutants (NESHAP)

The facility is an area source of hazardous air pollutants. The boilers are not subject to NESHAP Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Source, because they meet the definition of “gas fired boilers” in 40 CFR 63.11237; gas-fired boilers are exempt under 40 CFR 63.11195(e).

The emergency generator (EQUI 2) is subject to NESHAP Subpart ZZZZ

2.7 Compliance assurance monitoring (CAM)

CAM does not apply because no add-on controls are used at the facility.

2.9 Minnesota State Rules

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

- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.0515 Standards of Performance for New Indirect Heating Equipment
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Table 5. Regulatory overview of facility

Subject item*	Applicable regulations	Rationale
TFAC 1 - Air Quality Total Facility	Title I Condition: 40 CFR 52.21(r)(6)	The facility is a major source under New Source Review, therefore the requirements for determining if a reasonable possibility of significant emissions increase exists when planning a modification.
COMG 1 - Air Component Group (Boilers – EQUI 1, EQUI 6, and EQUI 7)	Title I Condition: Avoid major modification under 40 CFR 52.21	NO _x limit was set in a previous permit to keep a previous modification non-major under 40 CFR 52.21.

Subject item*	Applicable regulations	Rationale
COMG 4 - Air Component Group (Boilers – EQUI 1, EQUI 4, EQUI 5, EQUI 6, and EQUI 7)	Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-70009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9	PTE of the facility is based on fuel oil sulfur content of 0.0015 percent by weight
	Title I Condition: Avoid major modification under 40 CFR 52.21	Fuels are limited to natural gas and distillate fuel oil with a maximum sulfur content of 0.05 percent by weight. This limit is carried forward from previous permits and was set to keep a previous modification non-major under 40 CFR 52.21.
EQUI 1 - Boiler	40 CFR 60 Subpart Dc	The boiler was installed in 1999 (after June 9, 1989), and has a capacity of 63 MMBtu/hour (between 10 and 100 MMBtu/hr). Therefore NSPS Subpart Dc applies.
	40 CFR 63.11237	In order to be considered a “gas fired boiler” and be exempt from NESHAP Subpart JJJJJ, the boiler must limit its use of liquid fuel as described in the definition of “gas fired boiler.”
EQUI 2 - Reciprocating IC Engine	40 CFR 63 Subpart ZZZZ	Unit is an existing (installed in 2000, prior to June 12, 2006) emergency CI RICE, >500 hp, <30 l/cylinder, located at an area source. No emission limits apply
	Minn. R. 7011.2300	Unit is a stationary internal combustion engine
EQUI 4 - Boiler	Minn. R. 7011.0510	This unit was installed in 1968, so is considered an existing indirect heating unit (construction, modification, or reconstruction did not commence after January 31, 1977).
	40 CFR 63.11237	In order to be considered a “gas fired boiler” and be exempt from NESHAP Subpart JJJJJ, the boiler must limit its use of liquid fuel as described in the definition of “gas fired boiler.”
EQUI 5 - Boiler	Minn. R. 7011.0510	This unit was installed in 1968, so is considered an existing indirect heating unit (construction, modification, or reconstruction did not commence after January 31, 1977).
	40 CFR 63.11237	In order to be considered a “gas fired boiler” and be exempt from NESHAP Subpart JJJJJ, the boiler must limit its use of liquid fuel as described in the definition of “gas fired boiler.”
EQUI 6 - Boiler	Minn. R. 7011.0515	This unit was installed in 1975 and modified in 1996, so is considered a new indirect heating unit (construction, modification, or reconstruction commenced after January 31, 1977) but the modification did not trigger applicability of NSPS Subpart Dc because it did not result in an increase in hourly emissions of a regulated pollutant.
	40 CFR 63.11237	In order to be considered a “gas fired boiler” and be exempt from NESHAP Subpart JJJJJ, the boiler must limit its use of liquid fuel as described in the definition of “gas fired boiler.”
EQUI 7 - Boiler	Minn. R. 7011.0515	This unit was installed in 1975 and modified in 1996, so is considered a new indirect heating unit (construction, modification, or reconstruction commenced after January 31, 1977) but the modification did not trigger applicability of NSPS Subpart Dc because it did not result in an increase in hourly emissions of a regulated pollutant.
	40 CFR 63.11237	In order to be considered a “gas fired boiler” and be exempt from NESHAP Subpart JJJJJ, the boiler must limit its use of liquid fuel as described in the definition of “gas fired boiler.”

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

3. Technical information

3.1 Calculations of potential to emit (PTE)

Detailed emission calculations are included in Attachment 1 to this document. In summary, hourly emission rates of each of the five boilers and of the generator are calculated using the maximum hourly equipment capacity, emission factors published in AP-42 (Section 1.4 for natural gas combustion in boilers, Section 1.3 for fuel oil combustion in boilers, and Section 3.4 for diesel engines), fuel restrictions listed in the permit (0.0015% sulfur for distillate oil), and any hourly emission limits set in the permit (synthetic minor NO_x limit) to the extent that those limits are less than the PTE based on capacity and fuel restrictions. Unrestricted emissions were calculated on a per-unit basis using the maximum capacity of the equipment and the AP-42 emission factors.

Emissions for the emergency generator were calculated by taking the maximum hourly emission rate, calculated as described above, multiplied by 500 hours per year, per the September 6, 1995 U.S. EPA memo Calculating Potential to Emit (PTE) for Emergency Generators.

3.2 Dispersion modeling

The facility previously completed air dispersion modeling to show modeled compliance with the SO₂ national ambient air quality standards (NAAQS). Several emission limits were assumed when the modeling was initially conducted, so these were incorporated as permit limits in the previous permits; those limits have been removed through this permit action because they were higher than the current potential SO₂ emissions. The previous permit required a new modeling analysis if changes affected modeled parameters were made. Because removal of Boiler 1 resulted in a decrease in exhaust airflow in addition to a decrease in emissions, the Permittee completed a Significant Impact Level (SIL) model which also accounted for new limits on low-sulfur fuels; because modeling results were below the SIL, additional full dispersion modeling including background levels was not required. Per MPCA practice, a table of the modeled parameters is included in the permit as an appendix. 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 minimum parameters at the maximum emission rates. The MPCA does not require any specific compliance demonstration with these parameters because they are worst-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. In addition, the permit does not include additional modeling requirements, because the results of the SIL modeling show that modeled impacts are well below the NAAQS; any future changes would be unlikely to increase SO₂ emissions enough to affect the NAAQS.

Table 6. SO₂ Modeling Results

Averaging Time	Modeled Impact ($\mu\text{g}/\text{m}^3$)	SIL ($\mu\text{g}/\text{m}^3$)	% of SIL
1-hour	1.72	7.83	22%
3-hour	1.53	25	6%
24-hour	1.26	5	25%
Annual	0.10	1	10%

3.3 Monitoring

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

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

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

Table 7 summarizes the monitoring requirements.

Table 7. Monitoring

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
COMG 1	Nitrogen Oxides <= 17.8 pounds per hour 365-day rolling average. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]	Performance testing and hourly and daily recordkeeping	Performance testing determines the NO _x emission rate based on fuel type. Hourly recordkeeping of fuel type and quantity allows calculation of an average NO _x emission rate on a daily basis; that number is then used to calculate the 365-day rolling average.
COMG 4	Sulfur Content of Fuel <= 0.05 percent by weight for distillate oil. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000]	Fuel supplier certification	Shows that all fuel delivered contains sulfur less than or equal to 0.05 percent by weight.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
COMG 4	Sulfur Content of Fuel \leq 0.0015 percent by weight for distillate oil. [Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9]	Fuel supplier certification	Shows that all fuel delivered contains sulfur less than or equal to 0.0015 percent by weight.
EQUI 1	Opacity \leq 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43c(c), Minn. R. 7011.0570]	Initial opacity test and subsequent testing as described in NSPS Subpart Dc	Performance testing provides the most accurate measurement of the emissions.
EQUI 1	Sulfur Content of Fuel \leq 0.5 percent by weight or Sulfur Dioxide: less than or equal to 215 ng/J (0.50 lb/MMBtu). [40 CFR 60.42c(d), Minn. R. 7011.0570]	Fuel supplier certification and Recordkeeping of fuel sulfur content	The permit additionally limits the fuel sulfur content to 0.0015 percent by weight. It is unlikely that the fuel sulfur content would exceed 0.5 percent by weight.
EQUI 1	Hours of operation \leq 48 hours per calendar year for periodic testing, maintenance, or operator training on liquid fuel. [40 CFR 63.11237]	Recordkeeping on each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel.	Meets requirements of daily recordkeeping.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 2	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. [Minn. R. 7011.2300, subp. 2(B)]	Recordkeeping of fuel sulfur content	At the permitted fuel sulfur content, the PTE of the generator is 0.0015 pounds per million Btu.
EQUI 2	Sulfur Content of Fuel <= 0.0015 percent by weight. [Minn. R. 7005.0100, subp. 35a]	Fuel supplier certification and Recordkeeping of fuel sulfur content	Shows that all fuel delivered contains sulfur less than or equal to 0.0015 percent by weight.
EQUI 2	Opacity <= 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]	None	Based on the low potential emissions of particulate matter and sulfur dioxide due to the allowable fuels, significant opacity is not expected.
EQUI 4	Sulfur Dioxide <= 1.6 pounds per million Btu heat input while burning distillate oil. [Minn. R. 7011.0510, subp. 1]	Recordkeeping of fuel sulfur content (COMG 4)	At the permitted fuel sulfur content, the PTE of the generator is 0.0015 pounds per million Btu.
EQUI 4	Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.0510, subp. 2]	None	Based on the low potential emissions of particulate matter and sulfur dioxide due to the allowable fuels, significant opacity is not expected.
EQUI 4	Particulate Matter <= 0.40 pounds per million Btu heat input. [Minn. R. 7011.0510, subp. 1]	None	The potential to emit from the unit is 0.024 lb/MMBtu due to equipment design and allowable fuels.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 4	Hours of operation <= 48 hours per calendar year for periodic testing, maintenance, or operator training on liquid fuel. [40 CFR 63.11237]	Recordkeeping on each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel.	Meets requirements of daily recordkeeping.
EQUI 5	Sulfur Dioxide <= 1.6 pounds per million Btu heat input while burning distillate oil. [Minn. R. 7011.0510, subp. 1]	Recordkeeping of fuel sulfur content (COMG 4)	At the permitted fuel sulfur content, the PTE of the generator is 0.0015 pounds per million Btu.
EQUI 5	Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.0510, subp. 2]	None	Based on the low potential emissions of particulate matter and sulfur dioxide due to the allowable fuels, significant opacity is not expected.
EQUI 5	Particulate Matter <= 0.40 pounds per million Btu heat input. [Minn. R. 7011.0510, subp. 1]	None	The potential to emit from the unit is 0.024 lb/MMBtu due to equipment design and allowable fuels
EQUI 5	Hours of operation <= 48 hours per calendar year for periodic testing, maintenance, or operator training on liquid fuel. [40 CFR 63.11237]	Recordkeeping on each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel.	Meets requirements of daily recordkeeping.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 6	Particulate Matter <= 0.40 pounds per million Btu heat input. [Minn. R. 7011.0515, subp. 1]	None	The potential to emit from the unit is 0.024 lb/MMBtu due to equipment design and allowable fuels.
EQUI 6	Sulfur Dioxide <= 1.6 pounds per million Btu heat input. [Minn. R. 7011.0515, subp. 1]	Recordkeeping of fuel sulfur content (COMG 4)	At the permitted fuel sulfur content, the PTE of the boiler is 0.0015 pounds per million Btu.
EQUI 6	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]	None	Based on the low potential emissions of particulate matter and sulfur dioxide due to the allowable fuels, significant opacity is not expected.
EQUI 6	Hours of operation <= 48 hours per calendar year for periodic testing, maintenance, or operator training on liquid fuel. [40 CFR 63.11237]	Recordkeeping on each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel.	Meets requirements of daily recordkeeping.
EQUI 7	Particulate Matter <= 0.40 pounds per million Btu heat input. [Minn. R. 7011.0515, subp. 1]	None	The potential to emit from the unit is 0.024 lb/MMBtu due to equipment design and allowable fuels.
EQUI 7	Sulfur Dioxide <= 1.6 pounds per million Btu heat input. [Minn. R. 7011.0515, subp. 1]	Recordkeeping of fuel sulfur content (COMG 4)	At the permitted fuel sulfur content, the PTE of the boiler is 0.0015 pounds per million Btu.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
EQUI 7	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]	None	Based on the low potential emissions of particulate matter and sulfur dioxide due to the allowable fuels, significant opacity is not expected.
EQUI 7	Hours of operation <= 48 hours per calendar year for periodic testing, maintenance, or operator training on liquid fuel. [40 CFR 63.11237]	Recordkeeping on each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel.	Meets requirements of daily recordkeeping.

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

3.4 Insignificant activities

Hennepin County Energy Center 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.

Table 8. Insignificant activities

Insignificant activity	General applicable emission limit	Discussion
Individual units with potential emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0710/0715)	These are underground fuel storage tanks. Particulate matter emissions are unlikely.
Total facility coating and cleaning usage at the stationary source that meets the requirements of Minn. R. 7008.4100 (200 gallons or 2000 lbs VOC and 8000 lbs of particulates)	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0710/0715)	Facility uses less than 50 gallons per year of VOC-containing coating and cleaning materials. It is unlikely that usage of these materials will cause a violation of the applicable rule.

3.5 Permit organization

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

In this permit, federal requirements from NESHAPs and NSPS are included in two different formats. The requirements for 40 CFR pt. 60, subp. Dc are incorporated into the permit as individual permit requirements, which has historically been MPCA's standard practice. However, the requirements for 40 CFR pt. 63, subp. ZZZZ and the General Provisions in 40 CFR pt. 63, subp. A and 40 CFR pt. 60, subp. A are included in a different way – the permit text includes a list of citations of the applicable sections of the subpart, and the subpart itself is included as an appendix to the permit. This is done 1) to eliminate errors that can occur when paraphrasing rule language in a permit, and 2) to minimize staff hours spent paraphrasing rule language.

3.6 Comments received

4. Permit fee assessment

This permit action is the reissuance of an individual Part 70; therefore, no application fees apply under Minn. R. 7002.0016, subp. 1 to the changes that are covered by the reissuance application. However, the permit action rolls in an additional permit application to which fees do apply. Attachment 4 to this TSD contains the MPCA's assessment of Application and Additional Points used to determine the permit application fee as required by Minn. R. 7002.0019. The rolled in permit application was received after the effective date of the rule (July 1, 2009), so the application fee was paid at the time of submittal, and only the additional fees apply at this time.

5. Conclusion

Based on the information provided by Hennepin County Energy Center the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 05300002-101 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff members on permit team:

- Toni Volkmeier (permit engineer)
- Brent Rohne (enforcement)
- Curtis Stock (compliance)
- Kelsey Suddard (peer reviewer)
- Beckie Olson (permit writing assistant)
- Laurie O'Brien (administrative support)
- Helen Waqui (dispersion modeler)

TEMPO360 Activities: Major Amendment (IND20150001), Part 70 Reissuance (IND20120001)

Attachments:

1. PTE summary and emissions calculation spreadsheets
2. Subject item inventory and facility requirements
3. Modeling Results document
4. Points Calculator

Hours	Net Power Output (MW)	Heat Content Natural Gas (Btu/scf)	Heat Content Distillate Oil (Btu/gal)	Maximum Heat Input MMBtu/hr	Maximum Fuel Input (scf/hr)	Maximum Fuel Input (gal/hr)
8,760	NA	1,020	140,000	88.00	86,275	629

Criteria Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Max Annual (tpy)
Nitrogen Oxides (NO _x) ^{a,i}	10102-43-9	9.80E-02	1.43E-01	12.57	55.04
Carbon Monoxide (CO) ^{b,f}	630-08-0	8.24E-02	3.57E-02	7.25	31.76
Particulate Matter (PM) ^{c,f,g}	-	7.45E-03	2.36E-02	2.08	9.10
Particulate Matter < 10 Microns (PM ₁₀) ^{c,h}	-	7.45E-03	1.30E-02	1.14	5.00
Particulate Matter < 2.5 Microns (PM _{2.5}) ^{c,h}	-	7.45E-03	9.91E-03	0.87	3.82
Volatile Organic Compounds (VOC) ^{c,i}	-	5.39E-03	1.43E-03	0.47	2.08
Sulfur Dioxide (SO ₂) ^{c,i}	7446-09-5	5.88E-04	1.52E-03	0.13	0.59
Carbon Dioxide (CO ₂) ^{c,k}	124-38-9	1.18E+02	1.59E+02	14017.17	61395.20
Methane (CH ₄) ^{c,l}	74-82-8	2.25E-03	3.71E-04	0.20	0.87
Nitrous Oxide (N ₂ O) ^{c,l}	10024-97-2	2.16E-03	1.86E-03	0.19	0.83
Carbon Dioxide Equivalent (CO ₂ e) ⁿ	-	1.18E+02	1.60E+02	14066.76	61612.41

Hazardous Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Unrestricted (tpy)
Arsenic ^{e,m}	7440-38-2	2.00E-07	4.00E-06	3.52E-04	1.54E-03
Benzene ^{d,l}	71-43-2	2.06E-06	1.53E-06	1.81E-04	7.94E-04
Beryllium ^{e,m}	7440-41-7	1.18E-08	3.00E-06	2.64E-04	1.16E-03
Cadmium ^{e,m}	7440-43-9	1.08E-06	3.00E-06	2.64E-04	1.16E-03
Chromium ^{e,m}	7440-47-3	1.37E-06	3.00E-06	2.64E-04	1.16E-03
Cobalt ^e	7440-48-4	8.24E-08	0.00E+00	7.25E-06	3.18E-05
Dichlorobenzene ^d	25321-22-6	1.18E-06	0.00E+00	1.03E-04	4.53E-04
Ethylbenzene ^l	100-41-4	0.00E+00	4.54E-07	4.00E-05	1.75E-04
Formaldehyde ^{d,j}	50-00-0	7.35E-05	4.36E-04	3.83E-02	1.68E-01
Hexane ^d	110-54-3	1.77E-03	0.00E+00	1.55E-01	6.80E-01
Lead ^{c,m}	7439-92-1	4.90E-07	9.00E-06	7.92E-04	3.47E-03
Manganese ^{e,m}	7439-96-5	3.73E-07	6.00E-06	5.28E-04	2.31E-03
Mercury ^{e,m}	7439-97-6	2.55E-07	3.00E-06	2.64E-04	1.16E-03
Naphthalene ^{d,l}	91-20-3	5.98E-07	8.07E-06	7.10E-04	3.11E-03
Nickel ^{e,m}	7440-02-0	2.06E-06	3.00E-06	2.64E-04	1.16E-03
Polycyclic Organic Matter ^{d,j}	NA	8.60E-08	2.36E-05	2.07E-03	9.08E-03
Selenium ^{e,m}	7782-49-2	2.35E-08	1.50E-05	1.32E-03	5.78E-03
Toluene ^{d,l}	108-88-3	3.33E-06	4.43E-05	3.90E-03	1.71E-02
o-Xylene ^l	95-47-6	0.00E+00	7.79E-07	6.86E-05	3.00E-04
Total HAPs =				0.205	0.898

References:

- ^a Permit No. 05300002-003 (Group 001 NO_x Limit)
- ^b Natural Gas: AP-42 (07/98), Table 1.4-1
- ^c Natural Gas: AP-42 (07/98), Table 1.4-2
- ^d Natural Gas: AP-42 (07/98), Table 1.4-3
- ^e Natural Gas: AP-42 (07/98), Table 1.4-4
- ^f Distillate Oil: AP-42 (05/10), Table 1.3-1 (S 0.0015%)
- ^g Distillate Oil: AP-42 (05/10), Table 1.3-2

- ^h Distillate Oil: AP-42 (05/10), Table 1.3-7
- ⁱ Distillate Oil: AP-42 (05/10), Table 1.3-3
- ^j Distillate Oil: AP-42 (05/10), Table 1.3-8
- ^k Distillate Oil: AP-42 (05/10), Table 1.3-12
- ^l Distillate Oil: AP-42 (05/10), Table 1.3-09
- ^m Distillate Oil: AP-42 (05/10), Table 1.3-10
- ⁿ GWP CH₄ 25, N₂O 298

Hours	Net Power Output (HP)	Heat Content Distillate Oil (Btu/gal)	Maximum Heat Input MMBtu/hr	Maximum Fuel Input (gal/hr)	Fuel Use (gal/yr)
500	1,343	140,000	9.40	67	33,571

Criteria Air Pollutants	CAS#	Emission Factor	Potential Emissions	
		Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Max Annual (tpy)
Nitrogen Oxides (NO _x) ^a	10102-43-9	3.20E+00	30.08	7.52
Carbon Monoxide (CO) ^a	630-08-0	8.50E-01	7.99	2.00
Particulate Matter (PM) ^b	-	6.97E-02	0.66	0.16
Particulate Matter < 10 Microns (PM ₁₀) ^b	-	5.73E-02	0.54	0.13
Particulate Matter < 2.5 Microns (PM _{2.5}) ^b	-	5.56E-02	0.52	0.13
Volatile Organic Compounds (VOC) ^a	-	9.00E-02	0.85	0.21
Sulfur Dioxide (SO ₂) ^a	7446-09-5	1.52E-03	0.01	0.00
Carbon Dioxide (CO ₂) ^a	124-38-9	1.65E+02	1551.00	387.75
Methane (CH ₄) ^a	74-82-8	9.00E-02	0.85	0.21
Nitrous Oxide (N ₂ O)	10024-97-2	0.00E+00	0.00	0.00
Carbon Dioxide Equivalent (CO ₂ e) ^c	-	1.67E+02	1572.15	393.04

0.001515 lb/MMBtu

Hazardous Air Pollutants	CAS#	Emission Factor	Potential Emissions	
		Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Unrestricted (tpy)
Acetaldehyde ^d	75-07-0	2.52E-05	2.37E-04	5.92E-05
Acrolein ^d	107-02-8	7.88E-06	7.41E-05	1.85E-05
Benzene ^d	71-43-2	7.76E-04	7.29E-03	1.82E-03
Formaldehyde ^d	50-00-0	7.89E-05	7.42E-04	1.85E-04
Naphthalene ^e	91-20-3	1.30E-04	1.22E-03	3.06E-04
Polycyclic Organic Matter ^e	NA	8.20E-05	7.71E-04	1.93E-04
Toluene ^d	108-88-3	2.81E-04	2.64E-03	6.60E-04
Xylenes ^d	1330-20-7	1.93E-04	1.81E-03	4.54E-04
		Total HAPs =	0.015	0.004

References:

- ^a AP-42 (10/96), Table 3.4-1
- ^b AP-42 (10/96), Table 3.4-2
- ^c GWP CH₄ 25, N₂O 298
- ^d AP-42 (10/96), Table 3.4-3
- ^e AP-42 (10/96), Table 3.4-4

Hours	Net Power Output (MW)	Heat Content Natural Gas (Btu/scf)	Heat Content Distillate Oil (Btu/gal)	Maximum Heat Input MMBtu/hr	Maximum Fuel Input (scf/hr)	Maximum Fuel Input (gal/hr)
8,760	NA	1,020	140,000	63.00	61,765	450

Criteria Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Max Annual (tpy)
Nitrogen Oxides (NO _x) ^{b,f}	10102-43-9	9.80E-02	1.43E-01	9.00	39.40
Carbon Monoxide (CO) ^{b,f}	630-08-0	8.24E-02	3.57E-02	5.19	22.74
Particulate Matter (PM) ^{c,f,g}	-	7.45E-03	2.36E-02	1.49	6.51
Particulate Matter < 10 Microns (PM ₁₀) ^{c,h}	-	7.45E-03	1.30E-02	0.82	3.58
Particulate Matter < 2.5 Microns (PM _{2.5}) ^{c,h}	-	7.45E-03	9.91E-03	0.62	2.74
Volatile Organic Compounds (VOC) ^{c,i}	-	5.39E-03	1.43E-03	0.34	1.49
Sulfur Dioxide (SO ₂) ^{c,f}	7446-09-5	5.88E-04	1.52E-03	0.10	0.42
Carbon Dioxide (CO ₂) ^{c,k}	124-38-9	1.18E+02	1.59E+02	10035.02	43953.38
Methane (CH ₄) ^{c,i}	74-82-8	2.25E-03	3.71E-04	0.14	0.62
Nitrous Oxide (N ₂ O) ^{c,j}	10024-97-2	2.16E-03	1.86E-03	0.14	0.60
Carbon Dioxide Equivalent (CO ₂ e) ⁿ	-	1.18E+02	1.60E+02	10070.52	44108.89

Hazardous Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Unrestricted (tpy)
Arsenic ^{e,m}	7440-38-2	2.00E-07	4.00E-06	2.52E-04	1.10E-03
Benzene ^{d,i}	71-43-2	2.06E-06	1.53E-06	1.30E-04	5.68E-04
Beryllium ^{e,m}	7440-41-7	1.18E-08	3.00E-06	1.89E-04	8.28E-04
Cadmium ^{e,m}	7440-43-9	1.08E-06	3.00E-06	1.89E-04	8.28E-04
Chromium ^{e,m}	7440-47-3	1.37E-06	3.00E-06	1.89E-04	8.28E-04
Cobalt ^e	7440-48-4	8.24E-08	0.00E+00	5.19E-06	2.27E-05
Dichlorobenzene ^d	25321-22-6	1.18E-06	0.00E+00	7.41E-05	3.25E-04
Ethylbenzene ^l	100-41-4	0.00E+00	4.54E-07	2.86E-05	1.25E-04
Formaldehyde ^{d,j}	50-00-0	7.35E-05	4.36E-04	2.74E-02	1.20E-01
Hexane ^d	110-54-3	1.77E-03	0.00E+00	1.11E-01	4.87E-01
Lead ^{c,m}	7439-92-1	4.90E-07	9.00E-06	5.67E-04	2.48E-03
Manganese ^{e,m}	7439-96-5	3.73E-07	6.00E-06	3.78E-04	1.66E-03
Mercury ^{e,m}	7439-97-6	2.55E-07	3.00E-06	1.89E-04	8.28E-04
Naphthalene ^{d,i}	91-20-3	5.98E-07	8.07E-06	5.08E-04	2.23E-03
Nickel ^{e,m}	7440-02-0	2.06E-06	3.00E-06	1.89E-04	8.28E-04
Polycyclic Organic Matter ^{d,j}	NA	8.60E-08	2.36E-05	1.48E-03	6.50E-03
Selenium ^{e,m}	7782-49-2	2.35E-08	1.50E-05	9.45E-04	4.14E-03
Toluene ^{d,i}	108-88-3	3.33E-06	4.43E-05	2.79E-03	1.22E-02
o-Xylene ^l	95-47-6	0.00E+00	7.79E-07	4.91E-05	2.15E-04
Total HAPs =				0.147	0.643

References:

- ^b Natural Gas: AP-42 (07/98), Table 1.4-1
- ^c Natural Gas: AP-42 (07/98), Table 1.4-2
- ^d Natural Gas: AP-42 (07/98), Table 1.4-3
- ^e Natural Gas: AP-42 (07/98), Table 1.4-4
- ^f Distillate Oil: AP-42 (05/10), Table 1.3-1 (S 0.0015%)
- ^g Distillate Oil: AP-42 (05/10), Table 1.3-2
- ^h Distillate Oil: AP-42 (05/10), Table 1.3-7
- ⁱ Distillate Oil: AP-42 (05/10), Table 1.3-3
- ^j Distillate Oil: AP-42 (05/10), Table 1.3-8
- ^k Distillate Oil: AP-42 (05/10), Table 1.3-12
- ^l Distillate Oil: AP-42 (05/10), Table 1.3-09
- ^m Distillate Oil: AP-42 (05/10), Table 1.3-10
- ⁿ GWP CH₄ 25, N₂O 298

Hours	Net Power Output (MW)	Heat Content Natural Gas (Btu/scf)	Heat Content Distillate Oil (Btu/gal)	Maximum Heat Input MMBtu/hr	Maximum Fuel Input (scf/hr)	Maximum Fuel Input (gal/hr)
8,760	NA	1,020	140,000	63.00	61,765	450

Criteria Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Max Annual (tpy)
Nitrogen Oxides (NO _x) ^{b,i}	10102-43-9	9.80E-02	1.43E-01	9.00	39.40
Carbon Monoxide (CO) ^{b,f}	630-08-0	8.24E-02	3.57E-02	5.19	22.74
Particulate Matter (PM) ^{c,f,g}	-	7.45E-03	2.36E-02	1.49	6.51
Particulate Matter < 10 Microns (PM ₁₀) ^{c,h}	-	7.45E-03	1.30E-02	0.82	3.58
Particulate Matter < 2.5 Microns (PM _{2.5}) ^{c,h}	-	7.45E-03	9.91E-03	0.62	2.74
Volatile Organic Compounds (VOC) ^{c,i}	-	5.39E-03	1.43E-03	0.34	1.49
Sulfur Dioxide (SO ₂) ^{c,i}	7446-09-5	5.88E-04	1.52E-03	0.10	0.42
Carbon Dioxide (CO ₂) ^{c,k}	124-38-9	1.18E+02	1.59E+02	10035.02	43953.38
Methane (CH ₄) ^{c,l}	74-82-8	2.25E-03	3.71E-04	0.14	0.62
Nitrous Oxide (N ₂ O) ^{c,j}	10024-97-2	2.16E-03	1.86E-03	0.14	0.60
Carbon Dioxide Equivalent (CO ₂ e) ⁿ	-	1.18E+02	1.60E+02	10070.52	44108.89

Hazardous Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Unrestricted (tpy)
Arsenic ^{e,m}	7440-38-2	2.00E-07	4.00E-06	2.52E-04	1.10E-03
Benzene ^{d,l}	71-43-2	2.06E-06	1.53E-06	1.30E-04	5.68E-04
Beryllium ^{e,m}	7440-41-7	1.18E-08	3.00E-06	1.89E-04	8.28E-04
Cadmium ^{e,m}	7440-43-9	1.08E-06	3.00E-06	1.89E-04	8.28E-04
Chromium ^{e,m}	7440-47-3	1.37E-06	3.00E-06	1.89E-04	8.28E-04
Cobalt ^e	7440-48-4	8.24E-08	0.00E+00	5.19E-06	2.27E-05
Dichlorobenzene ^d	25321-22-6	1.18E-06	0.00E+00	7.41E-05	3.25E-04
Ethylbenzene ^l	100-41-4	0.00E+00	4.54E-07	2.86E-05	1.25E-04
Formaldehyde ^{d,j}	50-00-0	7.35E-05	4.36E-04	2.74E-02	1.20E-01
Hexane ^d	110-54-3	1.77E-03	0.00E+00	1.11E-01	4.87E-01
Lead ^{c,m}	7439-92-1	4.90E-07	9.00E-06	5.67E-04	2.48E-03
Manganese ^{e,m}	7439-96-5	3.73E-07	6.00E-06	3.78E-04	1.66E-03
Mercury ^{e,m}	7439-97-6	2.55E-07	3.00E-06	1.89E-04	8.28E-04
Naphthalene ^{d,l}	91-20-3	5.98E-07	8.07E-06	5.08E-04	2.23E-03
Nickel ^{e,m}	7440-02-0	2.06E-06	3.00E-06	1.89E-04	8.28E-04
Polycyclic Organic Matter ^{d,j}	NA	8.60E-08	2.36E-05	1.48E-03	6.50E-03
Selenium ^{e,m}	7782-49-2	2.35E-08	1.50E-05	9.45E-04	4.14E-03
Toluene ^{d,l}	108-88-3	3.33E-06	4.43E-05	2.79E-03	1.22E-02
o-Xylene ^l	95-47-6	0.00E+00	7.79E-07	4.91E-05	2.15E-04
Total HAPs =				0.147	0.643

References:

- ^b Natural Gas: AP-42 (07/98), Table 1.4-1
- ^c Natural Gas: AP-42 (07/98), Table 1.4-2
- ^d Natural Gas: AP-42 (07/98), Table 1.4-3
- ^e Natural Gas: AP-42 (07/98), Table 1.4-4
- ^f Distillate Oil: AP-42 (05/10), Table 1.3-1 (S 0.0015%)
- ^g Distillate Oil: AP-42 (05/10), Table 1.3-2
- ^h Distillate Oil: AP-42 (05/10), Table 1.3-7
- ⁱ Distillate Oil: AP-42 (05/10), Table 1.3-3
- ^j Distillate Oil: AP-42 (05/10), Table 1.3-8
- ^k Distillate Oil: AP-42 (05/10), Table 1.3-12
- ^l Distillate Oil: AP-42 (05/10), Table 1.3-09
- ^m Distillate Oil: AP-42 (05/10), Table 1.3-10
- ⁿ GWP CH₄ 25, N₂O 298

Hours	Net Power Output (MW)	Heat Content Natural Gas (Btu/scf)	Heat Content Distillate Oil (Btu/gal)	Maximum Heat Input MMBtu/hr	Maximum Fuel Input (scf/hr)	Maximum Fuel Input (gal/hr)
8,760	NA	1,020	140,000	88.00	86,275	629

Criteria Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Max Annual (tpy)
Nitrogen Oxides (NO _x) ^{a,i}	10102-43-9	9.80E-02	1.43E-01	12.57	55.04
Carbon Monoxide (CO) ^{b,f}	630-08-0	8.24E-02	3.57E-02	7.25	31.76
Particulate Matter (PM) ^{c,f,g}	-	7.45E-03	2.36E-02	2.08	9.10
Particulate Matter < 10 Microns (PM ₁₀) ^{c,h}	-	7.45E-03	1.30E-02	1.14	5.00
Particulate Matter < 2.5 Microns (PM _{2.5}) ^{c,h}	-	7.45E-03	9.91E-03	0.87	3.82
Volatile Organic Compounds (VOC) ^{c,i}	-	5.39E-03	1.43E-03	0.47	2.08
Sulfur Dioxide (SO ₂) ^{c,i}	7446-09-5	5.88E-04	1.52E-03	0.13	0.59
Carbon Dioxide (CO ₂) ^{c,k}	124-38-9	1.18E+02	1.59E+02	14017.17	61395.20
Methane (CH ₄) ^{c,l}	74-82-8	2.25E-03	3.71E-04	0.20	0.87
Nitrous Oxide (N ₂ O) ^{c,j}	10024-97-2	2.16E-03	1.86E-03	0.19	0.83
Carbon Dioxide Equivalent (CO ₂ e) ⁿ	-	1.18E+02	1.60E+02	14066.76	61612.41

Hazardous Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Unrestricted (tpy)
Arsenic ^{e,m}	7440-38-2	2.00E-07	4.00E-06	3.52E-04	1.54E-03
Benzene ^{d,l}	71-43-2	2.06E-06	1.53E-06	1.81E-04	7.94E-04
Beryllium ^{e,m}	7440-41-7	1.18E-08	3.00E-06	2.64E-04	1.16E-03
Cadmium ^{e,m}	7440-43-9	1.08E-06	3.00E-06	2.64E-04	1.16E-03
Chromium ^{e,m}	7440-47-3	1.37E-06	3.00E-06	2.64E-04	1.16E-03
Cobalt ^e	7440-48-4	8.24E-08	0.00E+00	7.25E-06	3.18E-05
Dichlorobenzene ^d	25321-22-6	1.18E-06	0.00E+00	1.03E-04	4.53E-04
Ethylbenzene ^l	100-41-4	0.00E+00	4.54E-07	4.00E-05	1.75E-04
Formaldehyde ^{d,j}	50-00-0	7.35E-05	4.36E-04	3.83E-02	1.68E-01
Hexane ^d	110-54-3	1.77E-03	0.00E+00	1.55E-01	6.80E-01
Lead ^{c,m}	7439-92-1	4.90E-07	9.00E-06	7.92E-04	3.47E-03
Manganese ^{e,m}	7439-96-5	3.73E-07	6.00E-06	5.28E-04	2.31E-03
Mercury ^{e,m}	7439-97-6	2.55E-07	3.00E-06	2.64E-04	1.16E-03
Naphthalene ^{d,l}	91-20-3	5.98E-07	8.07E-06	7.10E-04	3.11E-03
Nickel ^{e,m}	7440-02-0	2.06E-06	3.00E-06	2.64E-04	1.16E-03
Polycyclic Organic Matter ^{d,j}	NA	8.60E-08	2.36E-05	2.07E-03	9.08E-03
Selenium ^{e,m}	7782-49-2	2.35E-08	1.50E-05	1.32E-03	5.78E-03
Toluene ^{d,l}	108-88-3	3.33E-06	4.43E-05	3.90E-03	1.71E-02
o-Xylene ^l	95-47-6	0.00E+00	7.79E-07	6.86E-05	3.00E-04
Total HAPs =				0.205	0.898

References:

- ^a Permit No. 05300002-003 (Group 001 NO_x Limit)
- ^b Natural Gas: AP-42 (07/98), Table 1.4-1
- ^c Natural Gas: AP-42 (07/98), Table 1.4-2
- ^d Natural Gas: AP-42 (07/98), Table 1.4-3
- ^e Natural Gas: AP-42 (07/98), Table 1.4-4
- ^f Distillate Oil: AP-42 (05/10), Table 1.3-1 (S 0.0015%)
- ^g Distillate Oil: AP-42 (05/10), Table 1.3-2

- ^h Distillate Oil: AP-42 (05/10), Table 1.3-7
- ⁱ Distillate Oil: AP-42 (05/10), Table 1.3-3
- ^j Distillate Oil: AP-42 (05/10), Table 1.3-8
- ^k Distillate Oil: AP-42 (05/10), Table 1.3-12
- ^l Distillate Oil: AP-42 (05/10), Table 1.3-09
- ^m Distillate Oil: AP-42 (05/10), Table 1.3-10
- ⁿ GWP CH₄ 25, N₂O 298

Hours	Net Power Output (MW)	Heat Content Natural Gas (Btu/scf)	Heat Content Distillate Oil (Btu/gal)	Maximum Heat Input MMBtu/hr	Maximum Fuel Input (scf/hr)	Maximum Fuel Input (gal/hr)
8,760	NA	1,020	140,000	88.00	86,275	629

Criteria Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Max Annual (tpy)
Nitrogen Oxides (NO _x) ^{a,i}	10102-43-9	9.80E-02	1.43E-01	12.57	55.04
Carbon Monoxide (CO) ^{b,f}	630-08-0	8.24E-02	3.57E-02	7.25	31.76
Particulate Matter (PM) ^{c,f,g}	-	7.45E-03	2.36E-02	2.08	9.10
Particulate Matter < 10 Microns (PM ₁₀) ^{c,h}	-	7.45E-03	1.30E-02	1.14	5.00
Particulate Matter < 2.5 Microns (PM _{2.5}) ^{c,h}	-	7.45E-03	9.91E-03	0.87	3.82
Volatile Organic Compounds (VOC) ^{c,i}	-	5.39E-03	1.43E-03	0.47	2.08
Sulfur Dioxide (SO ₂) ^{c,i}	7446-09-5	5.88E-04	1.52E-03	0.13	0.59
Carbon Dioxide (CO ₂) ^{c,k}	124-38-9	1.18E+02	1.59E+02	14017.17	61395.20
Methane (CH ₄) ^{c,l}	74-82-8	2.25E-03	3.71E-04	0.20	0.87
Nitrous Oxide (N ₂ O) ^{c,j}	10024-97-2	2.16E-03	1.86E-03	0.19	0.83
Carbon Dioxide Equivalent (CO ₂ e) ⁿ	-	1.18E+02	1.60E+02	14066.76	61612.41

Hazardous Air Pollutants	CAS#	Emission Factor		Potential	
		Natural Gas (lb/MMBtu)	Distillate Oil (lb/MMBtu)	Max Hourly (lb/hr)	Unrestricted (tpy)
Arsenic ^{e,m}	7440-38-2	2.00E-07	4.00E-06	3.52E-04	1.54E-03
Benzene ^{d,l}	71-43-2	2.06E-06	1.53E-06	1.81E-04	7.94E-04
Beryllium ^{e,m}	7440-41-7	1.18E-08	3.00E-06	2.64E-04	1.16E-03
Cadmium ^{e,m}	7440-43-9	1.08E-06	3.00E-06	2.64E-04	1.16E-03
Chromium ^{e,m}	7440-47-3	1.37E-06	3.00E-06	2.64E-04	1.16E-03
Cobalt ^e	7440-48-4	8.24E-08	0.00E+00	7.25E-06	3.18E-05
Dichlorobenzene ^d	25321-22-6	1.18E-06	0.00E+00	1.03E-04	4.53E-04
Ethylbenzene ^l	100-41-4	0.00E+00	4.54E-07	4.00E-05	1.75E-04
Formaldehyde ^{d,j}	50-00-0	7.35E-05	4.36E-04	3.83E-02	1.68E-01
Hexane ^d	110-54-3	1.77E-03	0.00E+00	1.55E-01	6.80E-01
Lead ^{c,m}	7439-92-1	4.90E-07	9.00E-06	7.92E-04	3.47E-03
Manganese ^{e,m}	7439-96-5	3.73E-07	6.00E-06	5.28E-04	2.31E-03
Mercury ^{e,m}	7439-97-6	2.55E-07	3.00E-06	2.64E-04	1.16E-03
Naphthalene ^{d,l}	91-20-3	5.98E-07	8.07E-06	7.10E-04	3.11E-03
Nickel ^{e,m}	7440-02-0	2.06E-06	3.00E-06	2.64E-04	1.16E-03
Polycyclic Organic Matter ^{d,j}	NA	8.60E-08	2.36E-05	2.07E-03	9.08E-03
Selenium ^{e,m}	7782-49-2	2.35E-08	1.50E-05	1.32E-03	5.78E-03
Toluene ^{d,l}	108-88-3	3.33E-06	4.43E-05	3.90E-03	1.71E-02
o-Xylene ^l	95-47-6	0.00E+00	7.79E-07	6.86E-05	3.00E-04
Total HAPs =				0.205	0.898

References:

- ^a Permit No. 05300002-003 (Group 001 NO_x Limit)
- ^b Natural Gas: AP-42 (07/98), Table 1.4-1
- ^c Natural Gas: AP-42 (07/98), Table 1.4-2
- ^d Natural Gas: AP-42 (07/98), Table 1.4-3
- ^e Natural Gas: AP-42 (07/98), Table 1.4-4
- ^f Distillate Oil: AP-42 (05/10), Table 1.3-1 (S 0.0015%)
- ^g Distillate Oil: AP-42 (05/10), Table 1.3-2

- ^h Distillate Oil: AP-42 (05/10), Table 1.3-7
- ⁱ Distillate Oil: AP-42 (05/10), Table 1.3-3
- ^j Distillate Oil: AP-42 (05/10), Table 1.3-8
- ^k Distillate Oil: AP-42 (05/10), Table 1.3-12
- ^l Distillate Oil: AP-42 (05/10), Table 1.3-09
- ^m Distillate Oil: AP-42 (05/10), Table 1.3-10
- ⁿ GWP CH₄ 25, N₂O 298

Attachment 2 – Subject item inventory and facility requirements

List of SIs

Agency Interest: Hennepin County Energy Center













Agency Interest ID: 4245

Activity: IND20120001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	SI Designation and Description	
Hennepin County Energy Center	ACTV1	Null All IAs	
	AISI4245	Null Null	
	COMG1	GP001 Synthetic Minor NOX Limit	
	COMG4	GP004 Boiler Fuel Usage Limits	
	EQUI1	EU008 Boiler 4	
	EQUI2	EU009 Emergency Generator	
	EQUI4	EU002 Boiler 2	
	EQUI5	EU003 Boiler 3	
	EQUI6	EU004 Boiler 5	
	EQUI7	EU005 Boiler 6	
	STRU1	SV001 Boilers 2-4	
	STRU4	SV004 Boiler 5	

List of SIs

Agency Interest: Hennepin County Energy Center





Agency Interest ID: 4245

Activity: IND20120001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	SI Designation and Description	
Hennepin County Energy Center	STRU5	SV005 Boiler 6	
	STRU6	SV006 Emergency Generator	
	STRU7	Null Hennepin County Energy Center	
	TFAC1	05300002 Hennepin County Energy Center	



Insignificant air emissions activity

Agency Interest: Hennepin County Energy Center
Agency Interest ID: 4245
Activity: IND20120001 (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	
Hennepin County Energy Center	IND20120001	Activity	Insignificant Air Emissions Activity	ACTV1	Null All IAs	Active/ Existing	Minn. R. 7007.1300, subp. 3(l) Minn. R. 7008.4100	 

Component Group (Members)

Agency Interest: Hennepin County Energy Center









Agency Interest ID: 4245

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Component Group

SI Type: Air Component Group

Agency Interest Name	Subject Item ID	SI Designation and Description	Group Member ID (padded)	
Hennepin County Energy Center	COMG1	GP001 Synthetic Minor NOX Limit	EQUI1	
			EQUI6	
			EQUI7	
	COMG4	GP004 Boiler Fuel Usage Limits	EQUI1	
			EQUI4	
			EQUI5	
			EQUI6	
		EQUI7		

PTE by subject item

Agency Interest: None

Agency Interest ID: 4245

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)
Component Group	Air Component Group	COMG1	GP001	Synthetic Minor NOX Limit	Nitrogen Oxides	17.8		77.96	
Equipment	Boiler	EQUI1	EU008	Boiler 4	1,4-Dichlorobenzene (par..	0.000103	0.000453	0.000453	
					Arsenic compounds	0.000352	0.00154	0.00154	
					Benzene	0.000181	0.000794	0.000794	
					Beryllium	0.000264	0.00116	0.00116	
					Cadmium compounds	0.000264	0.00116	0.00116	
					Carbon Dioxide	14,017	61,395	61,395	
					Carbon Dioxide Equivalent	14,067	61,612	61,612	
					Carbon Monoxide	7.25	31.76	31.76	
					Chromium compounds	0.000264	0.00116	0.00116	
					Cobalt compounds	7.25e-06	3.18e-05	3.18e-05	
					Ethylbenzene	4e-05	0.000175	0.000175	
					Formaldehyde	0.0383	0.168	0.168	
					HAPs - Total	0.205	0.898	0.898	
					Hexane	0.155	0.68	0.68	
					Lead	0.000792	0.00347	0.00347	
					Manganese compounds	0.000528	0.00231	0.00231	
					Mercury	0.000264	0.00116	0.00116	
					Methane	0.2	0.87	0.87	
					Naphthalene	0.00071	0.00311	0.00311	
					Nickel compounds	0.000264	0.00116	0.00116	
					Nitrogen Oxides	0	55.04	0	
					Nitrous Oxide	0.19	0.83	0.83	
					Particulate Matter	2.08	9.1	9.1	
					PM < 2.5 micron	0.87	3.82	3.82	
					PM < 10 micron	1.14	5	5	
					Polycyclic organic matter	0.00207	0.00908	0.00908	
					Selenium compounds	0.00132	0.00578	0.00578	
					Sulfur Dioxide	0.13	0.59	0.59	
					Toluene	0.0039	0.0171	0.0171	
					Volatile Organic Compoun..	0.47	2.08	2.08	
					Xylenes, Total	6.86e-05	0.0003	0.0003	
		EQUI4	EU002	Boiler 2	1,4-Dichlorobenzene (par..	7.409e-05	0.00032451	0.00032451	
					Arsenic compounds	0.000252	0.00110376	0.00110376	
					Benzene	0.00012972	0.00056816	0.00056816	
					Beryllium	0.000189	0.00082782	0.00082782	
					Cadmium compounds	0.00189	0.00082782	0.00082782	
					Carbon Dioxide	10,035	43,953	43,953	
					Carbon Dioxide Equivalent	10,071	44,109	44,109	
					Carbon Monoxide	5.19	22.74	22.74	
					Chromium compounds	0.000189	0.00082782	0.00082782	
					Cobalt compounds	5.19e-06	2.274e-05	2.274e-05	
					Ethylbenzene	2.86e-05	0.00012528	0.00012528	
					Formaldehyde	0.0274491	0.12022706	0.12022706	
					HAPs - Total	0.146802	0.64299274	0.64299274	
					Hexane	0.111195	0.4870341	0.4870341	
					Lead	0.000567	0.00248346	0.00248346	
					Manganese compounds	0.000378	0.00165564	0.00165564	
					Mercury	0.000189	0.00082782	0.00082782	
					Methane	0.14	0.62	0.62	
					Naphthalene	0.00050841	0.00222684	0.00222684	
					Nickel compounds	0.000189	0.00082782	0.00082782	
					Nitrogen Oxides	9	39.4	39.4	
					Nitrous Oxide	0.14	0.6	0.6	
					Particulate Matter	1.49	6.51	6.51	
					PM < 2.5 micron	0.62	2.74	2.74	
					PM < 10 micron	0.82	3.58	3.58	
					Polycyclic organic matter	0.00148491	0.00650391	0.00650391	
					Selenium compounds	0.000945	0.0041391	0.0041391	
					Sulfur Dioxide	0.1	0.42	0.42	
					Toluene	0.0027909	0.01222414	0.01222414	
					Volatile Organic Compoun..	0.34	1.49	1.49	
					Xylenes, Total	4.908e-05	0.00021496	0.00021496	
		EQUI5	EU003	Boiler 3	1,4-Dichlorobenzene (par..	7.409e-05	0.00032451	0.00032451	

PTE by subject item

Agency Interest: None

Agency Interest ID: 4245

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	Boiler	EQUI5	EU003	Boiler 3	Arsenic compounds	0.000252	0.00110376	0.00110376						
					Benzene	0.00012972	0.00056816	0.00056816						
					Beryllium	0.000189	0.00082782	0.00082782						
					Cadmium compounds	0.000189	0.00082782	0.00082782						
					Carbon Dioxide	10,035	43,953	43,953						
					Carbon Dioxide Equivalent	10,071	44,109	44,109						
					Carbon Monoxide	5.19	22.74	22.74						
					Chromium compounds	0.000189	0.00082782	0.00082782						
					Cobalt compounds	5.19e-06	2.274e-05	2.274e-05						
					Ethylbenzene	2.86e-05	0.00012528	0.00012528						
					Formaldehyde	0.0274491	0.12022706	0.12022706						
					HAPs - Total	0.146802	0.64299274	0.64299274						
					Hexane	0.111195	0.4870341	0.4870341						
					Lead	0.000567	0.00248346	0.00248346						
					Manganese compounds	0.000378	0.00165564	0.00165564						
					Mercury	0.000189	0.00082782	0.00082782						
					Methane	0.14	0.62	0.62						
					Naphthalene	0.00050841	0.00222684	0.00222684						
					Nickel compounds	0.000189	0.00082782	0.00082782						
					Nitrogen Oxides	9	39.4	39.4						
					Nitrous Oxide	0.14	0.6	0.6						
					Particulate Matter	1.49	6.51	6.51						
					PM < 2.5 micron	0.62	2.74	2.74						
					PM < 10 micron	0.82	3.58	3.58						
					Polycyclic organic matter	0.00148491	0.00650391	0.00650391						
					Selenium compounds	0.000945	0.0041391	0.0041391						
					Sulfur Dioxide	0.1	0.42	0.42						
					Toluene	0.0027909	0.01222414	0.01222414						
					Volatile Organic Compoun..	0.34	1.49	1.49						
					Xylenes, Total	4.908e-05	0.00021496	0.00021496						
					EQUI6	Boiler	EQUI6	EU004	Boiler 5	1,4-Dichlorobenzene (par..	0.00010349	0.00045328	0.00045328	
										Arsenic compounds	0.000352	0.00154176	0.00154176	
										Benzene	0.00018119	0.00079362	0.00079362	
										Beryllium	0.000264	0.00115632	0.00115632	
Cadmium compounds	0.000264	0.00115632	0.00115632											
Carbon Dioxide	14,017	61,395	61,395											
Carbon Dioxide Equivalent	14,067	61,612	61,612											
Carbon Monoxide	7.25	31.76	31.76											
Chromium compounds	0.000264	0.00115632	0.00115632											
Cobalt compounds	7.25e-06	3.176e-05	3.176e-05											
Ethylbenzene	3.995e-05	0.00017499	0.00017499											
Formaldehyde	0.0383416	0.16793621	0.16793621											
HAPs - Total	0.20505676	0.89814859	0.89814859											
Hexane	0.15532	0.6803016	0.6803016											
Lead	0.000792	0.00346896	0.00346896											
Manganese compounds	0.000528	0.00231264	0.00231264											
Mercury	0.000264	0.00115632	0.00115632											
Methane	0.2	0.87	0.87											
Naphthalene	0.00071016	0.0031105	0.0031105											
Nickel compounds	0.000264	0.00115632	0.00115632											
Nitrogen Oxides	0	55.04	0											
Nitrous Oxide	0.19	0.83	0.83											
Particulate Matter	2.08	9.1	9.1											
PM < 2.5 micron	0.87	3.82	3.82											
PM < 10 micron	1.14	5	5											
Polycyclic organic matter	0.00207416	0.00908482	0.00908482											
Selenium compounds	0.00132	0.0057816	0.0057816											
Sulfur Dioxide	0.13	0.59	0.59											
Toluene	0.00038984	0.01707499	0.01707499											
Volatile Organic Compoun..	0.47	2.08	2.08											
Xylenes, Total	6.855e-05	0.00030026	0.00030026											
EQUI7	Boiler	EQUI7	EU005	Boiler 6						1,4-Dichlorobenzene (par..	0.00010349	0.00045328	0.00045328	
										Arsenic compounds	0.000352	0.00154176	0.00154176	
										Benzene	0.00018119	0.00079362	0.00079362	

PTE by subject item

Agency Interest: None

Agency Interest ID: 4245

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	Boiler	EQUI7	EU005	Boiler 6	Beryllium	0.000264	0.00115632	0.00115632						
					Cadmium compounds	0.000264	0.00115632	0.00115632						
					Carbon Dioxide	14,017	61,395	61,395						
					Carbon Dioxide Equivalent	14,067	61,612	61,612						
					Carbon Monoxide	7.25	31.76	31.76						
					Chromium compounds	0.000264	0.00115632	0.00115632						
					Cobalt compounds	7.25e-06	3.176e-05	3.176e-05						
					Ethylbenzene	3.995e-05	0.00017499	0.00017499						
					Formaldehyde	0.0383416	0.16793621	0.16793621						
					HAPs - Total	0.20505676	0.89814859	0.89814859						
					Hexane	0.15532	0.6803016	0.6803016						
					Lead	0.000792	0.00346896	0.00346896						
					Manganese compounds	0.000528	0.00231264	0.00231264						
					Mercury	0.000264	0.00115632	0.00115632						
					Methane	0.2	0.87	0.87						
					Naphthalene	0.00071016	0.0031105	0.0031105						
					Nickel compounds	0.000264	0.00115632	0.00115632						
					Nitrogen Oxides	0	55.04	0						
					Nitrous Oxide	0.19	0.83	0.83						
					Particulate Matter	2.08	9.1	9.1						
					PM < 2.5 micron	0.87	3.82	3.82						
					PM < 10 micron	1.14	5	5						
					Polycyclic organic matter	0.00207416	0.00908482	0.00908482						
					Selenium compounds	0.00132	0.0057816	0.0057816						
					Sulfur Dioxide	0.13	0.59	0.59						
					Toluene	0.0038984	0.01707499	0.01707499						
					Volatile Organic Compoun..	0.47	2.08	2.08						
					Xylenes, Total	6.855e-05	0.00030026	0.00030026						
					Reciprocating IC Engine	EQUI2		EU009	Emergency Generator	Acetaldehyde	0.00023688	5.922e-05	5.922e-05	
										Acrolein	7.407e-05	1.852e-05	1.852e-05	
										Benzene	0.0072944	0.0018236	0.0018236	
										Carbon Dioxide	1,551	388	388	
Carbon Dioxide Equivalent	1,572	393	393											
Carbon Monoxide	7.99	2	2											
Formaldehyde	0.00074166	0.00018542	0.00018542											
HAPs - Total	0.01479541	0.00369885	0.00369885											
Methane	0.85	0.21	0.21											
Naphthalene	0.001222	0.0003055	0.0003055											
Nitrogen Oxides	30.08	7.52	7.52											
Particulate Matter	0.66	0.16	0.16											
PM < 2.5 micron	0.52	0.13	0.13											
PM < 10 micron	0.54	0.13	0.13											
Polycyclic organic matter	0.0007708	0.0001927	0.0001927											
Sulfur Dioxide	0.01	0	0											
Toluene	0.0026414	0.00066035	0.00066035											
Volatile Organic Compoun..	0.85	0.21	0.21											
Xylenes, Total	0.0018142	0.00045355	0.00045355											

SI - SI relationships

Agency Interest: None







Agency Interest ID: 4245

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	EQUI1	EU008 Boiler 4	sends to	STRU1	100	Stack/Vent	11/9/2001	Null	
		EQUI4	EU002 Boiler 2	sends to	STRU1	100	Stack/Vent	11/9/2001	Null	
		EQUI5	EU003 Boiler 3	sends to	STRU1	100	Stack/Vent	11/9/2001	Null	
		EQUI6	EU004 Boiler 5	sends to	STRU4	100	Stack/Vent	11/9/2001	Null	
		EQUI7	EU005 Boiler 6	sends to	STRU5	100	Stack/Vent	11/9/2001	Null	
	Reciprocating IC Engine	EQUI2	EU009 Emergency Generator	sends to	STRU6	100	Stack/Vent	11/9/2001	Null	

Emission Units 2

Agency Interest: None
 Agency Interest ID: 4245
 Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: Boiler & 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	EQU11	EU008 Boiler 4	English Boiler	70E350	88	million British thermal units	hours	Heat	1/1/1999	1/5/2000	Null	■
	EQU14	EU002 Boiler 2	Erie City	12M 250 Keystone	63	million British thermal units	hours	Heat	1/1/1968	1/1/1968	Null	■
	EQU15	EU003 Boiler 3	Erie City	12M 250 Keystone	63	million British thermal units	hours	Heat	1/1/1968	1/1/1968	Null	■
	EQU16	EU004 Boiler 5	Erie City	14M 250 Keystone	88	million British thermal units	hours	Heat	1/1/1975	1/1/1975	Null	■
	EQU17	EU005 Boiler 6	Erie City	14M 250 Keystone	88	million British thermal units	hours	Heat	1/1/1975	1/1/1975	Null	■
Reciprocating IC Engine	EQU12	EU009 Emergency Generator	Caterpillar	3508TA	900	kilowatts	hours	Energy	4/24/2000	6/20/2000	Null	■

Emission Units 2 (continued)

Agency Interest: None







Agency Interest ID: 4245

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: Boiler & 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	EQUI1	EU008 Boiler 4	Not coal burning	Null	Null	Null	N	Null	
	EQUI4	EU002 Boiler 2	Not coal burning	Null	Null	Null	N	Null	
	EQUI5	EU003 Boiler 3	Not coal burning	Null	Null	Null	N	Null	
	EQUI6	EU004 Boiler 5	Not coal burning	Null	Null	Null	N	Null	
	EQUI7	EU005 Boiler 6	Not coal burning	Null	Null	Null	N	Null	
Reciprocating IC Engine	EQUI2	EU009 Emergency Generator	CI	Emergency/blackstart	34.53	liters per cylinder	Null	Null	

Buildings, General

Agency Interest: None


Agency Interest ID: 4245

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	STRU7	Null Hennepin County Energy Center	15	feet	240	feet	135	feet	

Stack/Vent, General

Agency Interest: None

Agency Interest ID: 4245

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Structure

SI Type: Stack/Vent

Subject Item Type	Subject Item ID	SI Designation and Description	Stack Height (feet)	Stack Diameter (feet)	Stack Length (feet)	Stack Width (feet)	Stack Flow Rate (cubic ft/min)	Discharge Temperature (°F)	Flow Rate/Temp Information Source	Discharge Direction	
Stack/Vent	STRU1	SV001 Boilers 2-4	150	5.5	Null	Null	79240	450	Estimate	Upwards with no cap on stack/vent	■
	STRU4	SV004 Boiler 5	70.7	3.7	Null	Null	35127	450	Estimate	Upwards with no cap on stack/vent	■
	STRU5	SV005 Boiler 6	70.7	3.7	Null	Null	35127	450	Estimate	Upwards with no cap on stack/vent	■
	STRU6	SV006 Emergency Generator	20.6	1	Null	Null	7436	916	Estimate	Upwards with a cap on stack/vent	■

Subject Item ID	Seq. #	Requirement	Citation
TFAC 1 (05300002)	1240	<p>Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in Appendices A (Insignificant Activities and General Applicable Requirements), C (NOX Emission Calculations for COMG 1), D (40 CFR 60 Subpart A – General Provisions), E (40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines), and F (40 CFR 63 Subpart A – General Provisions).</p> <p>Modeling parameters in Appendix B (SO2 Modeling Parameters) are included for reference only as described elsewhere in this permit.</p>	Minn. R. 7007.0800, subp. 2
TFAC 1 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	1320	<p>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.</p>	Minn. R. 7007.0800, subps. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000

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TFAC 1 (05300002)	1330	The Permittee must submit a report to the Agency if the annual summed (actual, plus potential if used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain: a. The name and ID number of the Facility, and the name and telephone number of the Facility contact person. b. The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.	Minn. R. 7007.0800, subps. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (05300002)	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, subps. 4-5, Title I Condition: 40 CFR 52.21(r)(6)(ii) and Minn. R. 7007.3000
TFAC 1 (05300002)	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, subps. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (05300002)	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 if used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain: a. The name and ID number of the facility, and the name and telephone number of the facility contact person. b. The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions 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, subps. 4-5, Title I Condition: 40 CFR 52.21(r)(6) and Minn. R. 7007.3000
TFAC 1 (05300002)	1370	The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0090. Compliance shall be demonstrated upon written request by the MPCA.	Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
TFAC 1 (05300002)	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 (05300002)	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 (05300002)	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)

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TFAC 1 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	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)
TFAC 1 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	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)

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TFAC 1 (05300002)	1640	If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
TFAC 1 (05300002)	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 (05300002)	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
TFAC 1 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	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 (05300002)	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)

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TFAC 1 (05300002)	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 (05300002)	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 (05300002)	1760	Emission Fees: due 30 days after receipt of an MPCA bill.	Minn. R. 7002.0005-7002.0095
TFAC 1 (05300002)	1890	Modeled Parameters for Sulfur Dioxide: The parameters used in sulfur dioxide modeling for permit number 05300002-101 are listed in Appendix B of this permit. The parameters describe the operation of the facility at maximum permitted capacity. The purpose of listing the parameters in the appendix is to provide a benchmark for future changes.	Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
COMG 1 (GP001)	1	The Permittee shall limit emissions of Nitrogen Oxides <= 17.8 pounds per hour 365-day rolling average to be calculated each day for the previous 365-day period as described in Appendix C.	Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) & Minn. R. 7007.3000
COMG 1 (GP001)	4	Hourly Recordkeeping: Fuel Usage: Maintain a record of the quantity and type of fuel burned in each boiler listed in COMG 1, on an hourly basis. Record should show the type and quantity of fuel burned in each boiler, for any given hour.	Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000
COMG 1 (GP001)	5	Recordkeeping - NOX Emissions Each day, calculate the previous calendar day's (midnight to midnight) average NOX emission rate using the equations in Appendix C.	Minn. R. 7007.0800, subps. 4-5
COMG 1 (GP001)	6	Recordkeeping - NOX Emissions Each day, calculate the 365-day rolling average by summing the average NOX emission rates for the previous 365 days and dividing by 365.	Minn. R. 7007.0800, subps. 4-5
COMG 1 (GP001)	3855	The Permittee shall submit an annual report by the 31st of January. The report shall document the NOx 365-day rolling average calculations for the previous calendar year. The report shall be submitted with the annual Compliance Certification required by this permit.	Minn. R. 7007.0800, subp. 2
COMG 1 (GP001)	3856	Recordkeeping Contingency Measures: In the event of a failure of the automated system used to calculate NOx emissions for COMG 1 the Permittee shall perform the following actions: 1) The Permittee shall keep a log on-site in which each event of missing fuel data resulting in no emission calculation for a given hour will be recorded. 2) As soon as possible after each event of missing fuel data, the plant supervisor will be contacted and fuel records for the past 24 hours will be reviewed. The fuel records will be used to produce an average hourly fuel usage rate based on the last 24 hours of fuel usage. The average hourly fuel usage rate may be calculated: a) by dividing the total 24-hour fuel usage by 24, or b) by using the operational personnel's knowledge of actual operations. 3) Each average hourly fuel usage rate will be entered into the emission calculation database to replace missing data. 4) Any replacement of missing emissions data shall be recorded in the on-site log and shall be reported to the MPCA on a semiannual basis.	Minn. R. 7007.0800, subps. 4-5
COMG 4 (GP004)	5	Fuel Usage: limited to natural gas and distillate oil.	Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000
COMG 4 (GP004)	6	Sulfur Content of Fuel <= 0.05 percent by weight for distillate oil.	Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000

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COMG 4 (GP004)	7	Sulfur Content of Fuel <= 0.0015 percent by weight for distillate oil.	Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-70009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
COMG 4 (GP004)	8	Fuel Supplier Certification: The Permittee shall determine compliance with the fuel oil sulfur limits based on a certification from the fuel supplier.	Minn. R. 7007.0800, subps. 4-5
COMG 4 (GP004)	9	Fuel Supplier Certification Requirements: The certification shall include the following information for distillate fuel oil: 1. The name of the oil supplier; and 2. The sulfur content of the oil. This certification shall be obtained for each delivery of distillate fuel oil.	Minn. R. 7007.0800, subps. 4-5
COMG 4 (GP004)	10	Recordkeeping - Fuel Usage: Maintain a record of the type of fuel burned in each boiler on an hourly basis.	Minn. R. 7007.0800, subps. 4-5
EQUI 1 (EU008)	4600	The Permittee must comply with all applicable requirements of 40 CFR pt. 60, subp. A as follows: 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)(4); 40 CFR 60.7(b); 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)(3); 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 60.14(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 60.15(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). 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.	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 1 (EU008)	4740	The Permittee shall limit the sulfur content of fuel: Sulfur Content of Fuel <= 0.5 percent by weight or Sulfur Dioxide: less than or equal to 215 ng/l (0.50 lb/MMBtu).	40 CFR 60.42c(d), Minn. R. 7011.0570
EQUI 1 (EU008)	4750	The SO2 emission limits, fuel oil sulfur limits, and percent reduction requirements under 40 CFR Section 60.42c apply at all times, including periods of startup, shutdown, and malfunction.	40 CFR 60.42c(i), Minn. R. 7011.0570
EQUI 1 (EU008)	4751	Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.	40 CFR 60.43c(c), Minn. R. 7011.0570
EQUI 1 (EU008)	4752	The opacity limit applies at all times, including periods of startup, shutdown, and malfunction.	40 CFR 60.43c(d), Minn. R. 7011.0570
EQUI 1 (EU008)	4753	To meet the definition of "gas fired boiler" for the purpose of being exempt from 40 CFR pt. 63, subpart JJJJJ, liquid fuel may only be burned during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.	40 CFR 63.11237
EQUI 1 (EU008)	4770	Fuel Supplier Certification: The Permittee shall determine compliance with the fuel oil sulfur limits based on a certification from the fuel supplier.	40 CFR 60.42c(h)(1)& Minn. R. 7011.0570
EQUI 1 (EU008)	4780	Fuel Supplier Certification Requirements: The certification shall include the following information for distillate fuel oil: 1. The name of the oil supplier; 2. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR Section 60.41c; and 3. The sulfur content of the oil. This certification shall be obtained for each delivery of distillate fuel oil.	40 CFR 60.48c(f)(1)& Minn. R. 7011.0570

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EQUI 1 (EU008)	4790	The Permittee shall record and maintain records of the amount of each fuel combusted at EQUI 1 during each operating day; OR the Permittee may elect to record and maintain records of the amount of each fuel combusted at EQUI 1 during each calendar month. If this option is chosen, by the last day of each calendar month, the Permittee shall record the amount of each fuel combusted in EQUI 1 during the previous calendar month. These records shall consist of purchase records, receipts, or fuel meter readings.	40 CFR 60.48c(g), Minn. R. 7011.0570
EQUI 1 (EU008)	4791	On each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel, the Permittee shall record the number of hours that liquid fuel was burned for those purposes.	Minn. R. 7007.0800, subps. 4-5
EQUI 1 (EU008)	4792	By January 15 of each year, the Permittee shall calculate total number of hours during the previous calendar year that liquid fuel was burned for periodic testing, maintenance, or operator training on liquid fuel.	Minn. R. 7007.0800, subps. 4-5
EQUI 1 (EU008)	4800	The Permittee shall submit a semiannual compliance report: Due by 30 days after end of each calendar half-year. The report shall include the information specified in of this permit. This report may be submitted with the Semiannual Deviations Report also specified in this permit.	40 CFR 60.48c(d), (j), Minn. R. 7011.0570
EQUI 1 (EU008)	4810	Semiannual Compliance Report Contents: The Permittee shall include the following in the Semiannual Compliance Report: 1) Calendar dates covered in the reporting period; 2) Records of fuel supplier certification including the name of the fuel oil supplier, a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c, and the sulfur content or maximum sulfur content of the oil; and 3) A certified statement signed by the Permittee that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.	40 CFR 60.48c(d) - (e), Minn. R. 7011.0570
EQUI 1 (EU008)	4820	Opacity Testing: In addition to the initial opacity testing required by 40 CFR 60.47c(a), the Permittee shall conduct subsequent performance tests using one of the following options. 1) Using Method 9 of Appendix A-4 of 40 CFR pt. 60, using the procedures in 40 CFR 60.47c(a) according to the applicable schedule in 40 CFR 60.47c(a)(1)(i) through (a)(1)(iv), as determined by the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test results; OR 2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test, the Permittee may, as an alternative to option 1 above, elect to perform subsequent monitoring using Method 22 of Appendix A-7 of 40 CFR pt. 60 according to the procedures specified in 40 CFR 60.47c(a)(2)(i) and (ii); OR 3). If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test, the Permittee may, as an alternative to option 1 above, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in 40 CFR 60.47c(a)(2). For reference purposes in preparing the monitoring plan, see 40 CFR 60.47c(a)(3).	40 CFR 60.47c(a)(1-3), Minn. R. 7011.0570
EQUI 1 (EU008)	4821	Nitrogen Oxides: The Permittee shall conduct a performance test due before 2/28/2022 and every 60 months thereafter to measure emissions while burning distillate oil. The first test is due by the date specified and all subsequent tests shall be completed every 60 months thereafter by the set due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 7E, 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 will not reset the test due date for future testing as required by this permit or 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 but will reset future performance test due dates based on the performance test date.	Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000

Subject Item ID	Seq. #	Requirement	Citation
EQUI 1 (EU008)	20270	<p>Nitrogen Oxides: The Permittee shall conduct a performance test due before 2/28/2022 and every 60 months thereafter to measure emissions while burning natural gas.</p> <p>The first test is due by the date specified and all subsequent tests shall be completed every 60 months thereafter by the set due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 7E, or other method approved by MPCA in the performance test plan approval.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter.</p> <p>Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date.</p>	Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000
EQUI 1 (EU008)	20271	<p>For each performance test conducted using Method 9 of appendix A-4 of 40 CFR Part 60, the Permittee shall keep the following records:</p> <p>(i) Dates and time intervals of all opacity observation periods;</p> <p>(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and (iii) Copies of all visible emission observer opacity field data sheets.</p>	40 CFR 60.48c(c)(1), Minn. R. 7011.0570
EQUI 1 (EU008)	20272	<p>For each performance test conducted using Method 22 of appendix A-4 of 40 CFR Part 60, the Permittee shall keep the following records:</p> <p>(i) Dates and time intervals of all visible emissions observation periods;</p> <p>(ii) Name and affiliation for each visible emission observer participating in the performance test;</p> <p>(iii) Copies of all visible emission observer opacity field data sheets; and</p> <p>(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.</p>	40 CFR 60.48c(c)(2), Minn. R. 7011.0570
EQUI 2 (EU009)	3520	Opacity <= 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
EQUI 2 (EU009)	3535	Sulfur Dioxide <= 0.0015 pounds per million Btu heat input. The potential to emit from the unit is 0.0015 lb SO2 per MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2(B)
EQUI 2 (EU009)	3540	Fuel type: No. 2 fuel oil/diesel fuel meeting the requirements of 40 CFR Section 80.510(c) only.	Minn. R. 7005.0100, subp. 35a
EQUI 2 (EU009)	3541	The Permittee shall limit the sulfur content of fuel: Sulfur Content of Fuel <= 0.0015 percent by weight.	Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0090, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9
EQUI 2 (EU009)	3550	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 (EU009)	3551	Recordkeeping - Hours of operation. The Permittee shall track the total hours that the generator is operated per year. Records may be written in a log, or may be tracked using an hour-meter on the generator.	Minn. R. 7007.0800, subps. 4-5
EQUI 2 (EU009)	3560	The Permittee shall keep records of fuel type and usage on a monthly basis.	Minn. R. 7007.0800, subp. 5
EQUI 2 (EU009)	3565	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

Subject Item ID	Seq. #	Requirement	Citation
EQUI 2 (EU009)	12249	<p>The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. ZZZZ as follows:</p> <p>40 CFR 63.6585(a), 40 CFR 63.6585(c), 40 CFR 63.6590 (a)(1)(iii), 40 CFR 63.6595(a), 40 CFR 63.6603(a), 40 CFR 63.6605(a), 40 CFR 63.6605(b), 40 CFR 63.6625 (e)(3), 40 CFR 63.6625(f), 40 CFR 63.6625(h), 40 CFR 63.6625(i), 40 CFR 63.6640(a), 40 CFR 63.6640(b), 40 CFR 63.6640 (e), 40 CFR 63.6640(f), 40 CFR 63.6640(f)(1), 40 CFR 63.6640(f)(2)(i), 40 CFR 63.6640(f)(4), 40 CFR 63.6645(a)(2), 40 CFR 63.6650(f), 40 CFR 63.6655(e), 40 CFR 63.6655(f), 40 CFR 63.6660(a), 40 CFR 63.6660(b), 40 CFR 63.6660(c), 40 CFR 63.6665, 40 CFR 63.6675, 40 CFR pt. 63, subp ZZZZ Table 2(d)(Item 4), 40 CFR pt. 63, subp ZZZZ Table 6 (item 9), 40 CFR pt. 63, subp ZZZZ Table 8.</p> <p>A copy of 40 CFR pt. 63, subp. ZZZZ is included in Appendix E.</p> <p>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. 63, subp. ZZZZ, Minn. R. 7011.8150
EQUI 2 (EU009)	12250	<p>The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. A as follows:</p> <p>40 CFR 63.1(a); 40 CFR 63.1(b)(1); 40 CFR 63.1(b)(3); 40 CFR 63.1(c)(1); 40 CFR 63.1(c)(2); 40 CFR 63.1(c)(5); 40 CFR 63.1(e); 40 CFR 63.2; 40 CFR 63.3; 40 CFR 63.4(a); 40 CFR 63.4(b); 40 CFR 63.4(c); 40 CFR 63.5(a); 40 CFR 63.5(b); 40 CFR 63.5(d); 40 CFR 63.5(e); 40 CFR 63.6(b)(7); 40 CFR 63.6(a)(1); 40 CFR 63.6(a)(2); 40 CFR 63.6(c)(1); 40 CFR 63.6(c)(2); 40 CFR 63.6(c)(5); 40 CFR 63.6(j); 40 CFR 63.9(a) 40 CFR 63.9(b)(1); 40 CFR 63.9(b)(4); 40 CFR 63.9(b)(5); 40 CFR 63.9(c); 40 CFR 63.9(d); 40 CFR 63.9(h); 40 CFR 63.9(i); 40 CFR 63.9(j); 40 CFR 63.10(a)(1); 40 CFR 63.10(a)(2); 40 CFR 63.10(a)(3); 40 CFR 63.10(a)(4); 40 CFR 63.10(a)(5); 40 CFR 63.10(a)(6); 40 CFR 63.10(a)(7); 40 CFR 63.10(b)(1); 40 CFR 63.10(b)(2)(ii); 40 CFR 63.10(b)(2)(xii); 40 CFR 63.10(b)(2)(xiv); 40 CFR 63.10(b)(3); 40 CFR 63.10(d)(4); 40 CFR 63.10(f); 40 CFR 63.12; 40 CFR 63.13; 40 CFR 63.14; 40 CFR 63.15(a); 40 CFR 63.15(b); and 40 CFR 63.16.</p> <p>A copy of 40 CFR pt. 63, subp. A is included in Appendix F. 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. 63, subp. A, 40 CFR pt. 63, subp. ZZZZ(Table 8), Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-1500, Minn. R. 7011.7000, Minn. R. 7011.8150, Minn. R. 7017.1010 & 7017.2025, Minn. R. 7019.0100
EQUI 4 (EU002)	3610	Particulate Matter <= 0.40 pounds per million Btu heat input. The potential to emit from the unit is 0.024 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.0510, subp. 1
EQUI 4 (EU002)	3620	Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
EQUI 4 (EU002)	3630	Sulfur Dioxide <= 1.6 pounds per million Btu heat input while burning distillate oil. The potential to emit from the unit is 0.0015 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.0510, subp. 1
EQUI 4 (EU002)	3631	To meet the definition of "gas fired boiler" for the purpose of being exempt from 40 CFR pt. 63, subpart JJJJJ, liquid fuel may only be burned during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.	40 CFR 63.11237
EQUI 4 (EU002)	3632	On each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel, the Permittee shall record the number of hours that liquid fuel was burned for those purposes.	Minn. R. 7007.0800, subps. 4-5
EQUI 4 (EU002)	3633	By January 15 of each year, the Permittee shall calculate total number of hours during the previous calendar year that liquid fuel was burned for periodic testing, maintenance, or operator training on liquid fuel.	Minn. R. 7007.0800, subps. 4-5
EQUI 5 (EU003)	3610	Particulate Matter <= 0.40 pounds per million Btu heat input. The potential to emit from the unit is 0.024 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.0510, subp. 1
EQUI 5 (EU003)	3620	Opacity <= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
EQUI 5 (EU003)	3630	Sulfur Dioxide <= 1.6 pounds per million Btu heat input while burning distillate oil. The potential to emit from the unit is 0.0015 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.0510, subp. 1

Subject Item ID	Seq. #	Requirement	Citation
EQUI 5 (EU003)	3631	To meet the definition of "gas fired boiler" for the purpose of being exempt from 40 CFR pt. 63, subpart JJJJJ, liquid fuel may only be burned during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.	40 CFR 63.11237
EQUI 5 (EU003)	3632	On each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel, the Permittee shall record the number of hours that liquid fuel was burned for those purposes.	Minn. R. 7007.0800, subps. 4-5
EQUI 5 (EU003)	3633	By January 15 of each year, the Permittee shall calculate total number of hours during the previous calendar year that liquid fuel was burned for periodic testing, maintenance, or operator training on liquid fuel.	Minn. R. 7007.0800, subps. 4-5
EQUI 6 (EU004)	3570	Particulate Matter \leq 0.40 pounds per million Btu heat input [The potential to emit from the unit is 0.024 lb/MMBtu due to equipment design and allowable fuels.].	Minn. R. 7011.0515, subp. 1
EQUI 6 (EU004)	3580	Opacity \leq 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 6 (EU004)	3590	Sulfur Dioxide \leq 1.6 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. 7011.0515, subp. 1
EQUI 6 (EU004)	3631	<p>Nitrogen Oxides: The Permittee shall conduct a performance test due before 2/28/2022 and every 60 months thereafter to measure emissions while burning distillate oil.</p> <p>The first test is due by the date specified and all subsequent tests shall be completed every 60 months thereafter by the set due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 7E, or other method approved by MPCA in the performance test plan approval.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter.</p> <p>Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date.</p>	Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000
EQUI 6 (EU004)	20270	<p>Nitrogen Oxides: The Permittee shall conduct a performance test due before 2/28/2022 and every 60 months thereafter to measure emissions while burning natural gas.</p> <p>The first test is due by the date specified and all subsequent tests shall be completed every 60 months thereafter by the set due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 7E, or other method approved by MPCA in the performance test plan approval.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter.</p> <p>Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date.</p>	Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000
EQUI 6 (EU004)	20271	To meet the definition of "gas fired boiler" for the purpose of being exempt from 40 CFR pt. 63, subpart JJJJJ, liquid fuel may only be burned during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.	40 CFR 63.11237
EQUI 6 (EU004)	20272	On each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel, the Permittee shall record the number of hours that liquid fuel was burned for those purposes.	Minn. R. 7007.0800, subps. 4-5
EQUI 6 (EU004)	20273	By January 15 of each year, the Permittee shall calculate total number of hours during the previous calendar year that liquid fuel was burned for periodic testing, maintenance, or operator training on liquid fuel.	Minn. R. 7007.0800, subps. 4-5
EQUI 7 (EU005)	3570	Particulate Matter \leq 0.40 pounds per million Btu heat input [The potential to emit from the unit is 0.024 lb/MMBtu due to equipment design and allowable fuels.].	Minn. R. 7011.0515, subp. 1
EQUI 7 (EU005)	3580	Opacity \leq 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0515, subp. 2

Subject Item ID	Seq. #	Requirement	Citation
EQUI 7 (EU005)	3590	Sulfur Dioxide <= 1.6 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. 7011.0515, subp. 1
EQUI 7 (EU005)	3631	<p>Nitrogen Oxides: The Permittee shall conduct a performance test due before 2/28/2022 and every 60 months thereafter to measure emissions while burning distillate oil.</p> <p>The first test is due by the date specified and all subsequent tests shall be completed every 60 months thereafter by the set due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 7E, or other method approved by MPCA in the performance test plan approval.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter.</p> <p>Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date.</p>	Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000
EQUI 7 (EU005)	20270	<p>Nitrogen Oxides: The Permittee shall conduct a performance test due before 2/28/2022 and every 60 months thereafter to measure emissions while burning natural gas.</p> <p>The first test is due by the date specified and all subsequent tests shall be completed every 60 months thereafter by the set due date (month and day) and as described below. The performance test shall be conducted at worst-case conditions as defined at Minn. R. 7017.2025, subp. 2, using EPA Reference Method 7E, or other method approved by MPCA in the performance test plan approval.</p> <p>Testing conducted during the 60 days prior to the performance test due date will not reset the test due date for future testing as required by this permit or within a Notice of Compliance letter.</p> <p>Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement but will reset future performance test due dates based on the performance test date.</p>	Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000
EQUI 7 (EU005)	20271	To meet the definition of "gas fired boiler" for the purpose of being exempt from 40 CFR pt. 63, subpart JJJJJ, liquid fuel may only be burned during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.	40 CFR 63.11237
EQUI 7 (EU005)	20272	On each day that liquid fuel is burned for periodic testing, maintenance, or operator training on liquid fuel, the Permittee shall record the number of hours that liquid fuel was burned for those purposes.	Minn. R. 7007.0800, subps. 4-5
EQUI 7 (EU005)	20273	By January 15 of each year, the Permittee shall calculate total number of hours during the previous calendar year that liquid fuel was burned for periodic testing, maintenance, or operator training on liquid fuel.	Minn. R. 7007.0800, subps. 4-5

Attachment 3 –Modeling Results

<placeholder – waiting on final modeling files before results are approved>

Attachment 4 –Points Calculator

Points Calculator

1) AI ID No.:	4245	Total Points	40
2) Facility Name:	Hennepin County Energy Center		
3) Small business? y/n?	n		
4) Air Project Tracking Numbers (including all)	3942, 5389		
5) Date of each Application Received:	5/23/2012, 10/26/2015		
6) Final Permit No.	05300002-101		
7) Permit Staff	Volkmeier		

Application Type	Air Project Tracking No.	Tempo Activity ID	Qty.	Points	Total Points	Total Additional Cost	Details
Administrative Amendment			1	0	0	\$ -	
Minor Amendment			4	0	0	\$ -	
Applicability Request			10	0	0	\$ -	
Moderate Amendment			15	0	0	\$ -	
Major Amendment	5389	IND20150001	1	25	25	\$ 7,125.00	
Individual State Permit (not reissuance)				50	0	\$ -	
Individual Part 70 Permit (not reissuance)				75	0	\$ -	

Additional Points	Air Project Tracking No.	Tempo Activity ID	Qty.	Points	Total Points	Total Additional Cost	Details
Modeling Review	5389	IND20150001	1	15	15	\$ 4,275.00	
BACT Review				15	0	\$ -	
LAER Review				15	0	\$ -	
CAA section 110(a)(2)(D)(i)(I) Review (i.e., Transport Rule/CAIR/CSAPR)				10	0	\$ -	
Part 75 CEM analysis				10	0	\$ -	
NSPS Review				10	0	\$ -	
NESHAP Review				10	0	\$ -	
Case-by-case MACT Review				20	0	\$ -	
Netting				10	0	\$ -	
Limits to remain below threshold				10	0	\$ -	
Plantwide Applicability Limit (PAL)				20	0	\$ -	
AERA review				15	0	\$ -	
Variance request under 7000.7000				35	0	\$ -	
Confidentiality request under 7000.1300				2	0	\$ -	
EAW review					0		
Part 4410.4300, subparts 18, item A; and 29				15	0	\$ -	
Part 4410.4300, subparts 8, items A & B; 10, items A to C; 16, items A & D; 17, items A to C & E to G; and 18, items B & C				35	0	\$ -	
Part 4410.4300, subparts 4; 5 items A & B; 13; 15; 16, items B & C; and 17 item D				70	0	\$ -	
				Add'l Points	15		

NOTES:
Major amendment application fee paid at time of submittal. Incorporation of NESHAP Subpart ZZZZ is not chargeable, as part of the Part 70 reissuance.