

**Technical Support Document  
for  
Draft Air Emission Permit No. 11900051-101**

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**

<b>Applicant/Address</b>	<b>Stationary source/Address (SIC Code: 4953 - Refuse Systems)</b>
Jon Steiner 708 8th Street Northwest Fosston, Minnesota 56542	Polk County Solid Waste Resource Recovery 708 8th Street Northwest Fosston, MN 56542
Contact: Jon Steiner Phone: 218-435-6501	

**1.2 Facility description**

Polk County Solid Waste Resource Recovery (PCSWRR) is a solid waste incineration facility. PCSWRR consists of a materials recovery facility (MRF), two waste combustor units (EQUI 1, Incinerator 2, and EQUI 19, Incinerator 1), and an auxiliary boiler (EQUI 22). The waste combustors are allowed to burn natural gas and mixed municipal solid waste (MSW) processed at the facility to generate steam.

EQUIs 1 and 19 may be operated independently. The waste combustors consist of primary and secondary combustion chambers, waste heat boilers, and economizers. The primary chambers are modular, starved-air units capable of burning 1.6 tons of mixed MSW per hour for a combined total capacity of 76.6 tons of mixed MSW per day. This equates to a heat input rate of 17.6 Million Btu/hr at an assumed heat content of 5500 Btu/lb for mixed MSW processed at the facility. EQUIs 1 and 19 also burn natural gas in auxiliary burners in the primary and secondary chambers for combustion system and pollution control equipment startup.

Each waste combustor is controlled by an electrostatic precipitator (TREAs 1 and 2) for particulate matter, particulate matter less than 10 microns (PM<sub>10</sub>), and particulate matter less than 2.5 microns (PM<sub>2.5</sub>), activated carbon absorber (TREAs 3 and 4) for volatile organic compounds (VOC), mercury, and dioxins/furans, and a sodium carbonate injection scrubber (TREAs 5 and 6) for acid gases. Exhaust gases from EQUIs 1 and 19 are vented through a common stack. Each waste combustor also has a dump stack for emergencies. Exhaust gases are continuously monitored for carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), opacity, and oxygen (O<sub>2</sub>). A number of operating parameters, including ESP inlet temperature, steam flow rate, and mercury and dioxin/furan (PCDD/PCDF) control additive feed rate are also monitored continuously.

Bottom ash from the primary combustion chambers and fly ash from electrostatic precipitator control equipment are conveyed to a container located in an enclosed area of the facility. The ash is then loaded and transported by truck for disposal at the Polk County Sanitary Landfill (permit number SW-124).

### 1.3 Description of the activities allowed by this permit action

This permit action is Part 70 Reissuance. No construction is authorized.

### 1.4 Facility emissions

**Table 2. Total facility potential to emit summary**

	PM tpy	PM <sub>10</sub> tpy	PM <sub>2.5</sub> tpy	SO <sub>2</sub> tpy	NO <sub>x</sub> tpy	CO tpy	CO <sub>2e</sub> tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total facility limited potential emissions	10.6	10.6	10.6	28.3	145	18.9	21,943	0.78	30.0	52.7
Total facility actual emissions (2018)	3.32	3.32	2.86	2.92	31.7	2.37	*	2.17	*	

\*Not reported in Minnesota emission inventory.

**Table 3. Facility classification**

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

### 1.5 Changes to permit

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

- The permit has been updated to reflect current MPCA templates and standard citation formatting.
- Completed requirements or requirements that have been deleted:
  - Submit a fugitive emissions control plan (Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2)
  - Plan to reduce the level of toxic contaminants (Minn. R. 7007.0801, subps. 6(A) and (7))
  - Achieve final compliance by May 6, 2005 with 40 CFR pt. 62, subp. JJJ (40 CFR Section 62.15045(a))
  - Control operator certification within 12 months of May 18, 1998 (Minn. R. 7011.1240, subp. 1a(A)(5))
  - Initial performance tests (40 CFR Section 62.15240(a))
  - Microfiche copy of performance test reports (Minn. R. 7017.2035, subp 2, Minn. R. 7011.1285, subp. 6)
  - Initial Report (40 CFR 62.15325, 40 CFR 62.15330)
- Some requirements have been reordered to help with clarity.
  - Limits, requirements, and performance testing that apply to each individual waste combustor are moved from COMG 2 and added under the emission unit level (EQUI 1 and EQUI 19).
  - Most requirements that apply to CEMS are moved to COMG 4. CEMS requirements that apply to the individual monitors are listed under the emission unit level (EQUIs 30-41).
  - Requirements that apply to COMS are moved from COMG 2 and added under the emissions unit level (EQUI 29).

- Dump stacks for incinerators are no longer listed as emission units and are listed as stack/vents. Any associated requirements with the dump stacks are listed under EQUIs 1 and 19.
- Monitoring and recordkeeping requirements are added to the permit for electrostatic precipitators (TREAs 1 and 2), activated carbon absorbers (TREAs 3 and 4), and sodium carbonate injection scrubbers (TREAs 5 and 6).
- Permit 11900051-002 listed two requirements for PM, PCDD/PCDF, and mercury performance testing; one test based on the emission unit startup date and one test based on the initial performance test date. The testing requirements based on emission unit startup date are removed and the testing requirements based on the initial performance test date are updated based on the most recent performance test date.
- Minn. R. 7011.1270(B)(4) requires a waste combustor facility to conduct a waste composition study every five years. This requirement applies to PCSWRR is added to the permit under COMG 2.
- The United States Environmental Protection Agency (EPA) approved the use of COMS data in lieu of Method 9 to determine compliance for opacity in a letter to the facility dated March 8, 2006. The use of COMS data is added to the permit where applicable and the approval letter from EPA is attached to this TSD.
- PCSWRR submitted an initial notification for applicability to 40 CFR pt. 63, subp. DDDDD for EQUI 22 on May 24, 2013. 40 CFR pt. 63, subp. DDDDD requirements are added to the permit under EQUI 22.
- The MPCA redefined the waste processed at PCSWRR as mixed MSW. Further discussion is included in section 3.2 of this TSD.
- PCSWRR MRF and MSW unloading operations were previously listed as insignificant activities and emission units. Both operations qualify as insignificant activities and therefore are no longer listed as emission units.

## 2. Regulatory and/or statutory basis

### 2.1 New source review (NSR)

Municipal incinerators capable of charging more than 250 tons of refuse per day was listed as one of the 28 PSD emission categories subject to a 100 ton per day major stationary source threshold for any regulated NSR pollutant (40 CFR Section 52.21(b)(1)(i)(a)) under the 1977 Clean Air Act Amendment NSR permit program. Under the 1990 Clean Air Act amendments, the “municipal incinerators capable of charging more than 250 tons of refuse per day” category was amended to “municipal incinerators capable of charging more than fifty tons of refuse per day” (Title 42, U.S.C, Ch. 85, subchapter I, Part C, subp. i, Section 7479). Although the Clean Air Act has been amended, 40 CFR 52.21(b)(1)(i)(a) has not been amended to reflect this PSD threshold category change and thus the MPCA forms also have not been amended.

PCSWRR was constructed in 1988 and was not subject to the NSR permit program because the 100 ton per year major stationary source threshold did not apply at that time. However, the PSD major source threshold of 100 tons per year applied after the 1990 Clean Air Act Amendments. PCSWRR municipal incinerators have the capacity to charge more than 50 tons of refuse per day and the limited facility NO<sub>x</sub> potential to emit (PTE) is equal to 145 tons per year, therefore PCSWRR is a major stationary source under 40 CFR Section 52.21(b)(1)(i)(a). Since 1988, PCSWRR did not construct or modify any emission units at their facility that required NSR review.

In order to become a PSD non-major source or synthetic minor source, the MPCA accepted a NO<sub>x</sub> limit of 80 tons per year for EQUIs 1 and 19 to avoid major source status under 40 CFR 52.21(b)(1)(i). A NO<sub>x</sub> limit is acceptable for the PCSWRR incinerators based on the EPA memo, “Guidance on the Appropriate Injunctive Relief for Violations of Major New Source Review Requirements” (Schaeffer, 1998). Although the PCSWRR incinerator limited NO<sub>x</sub> PTE calculated from the applicable 40 CFR pt. 62, subp. JJJ, Table 4 NO<sub>x</sub> limit results in 132 tons per year; the unrestricted NO<sub>x</sub> PTE calculated using the AP-42, Table 2.1-9 emission factor results in 67 tons per year. Additionally, the actual facility NO<sub>x</sub> emissions since 2010 have been 40 tons per year or less.

With the incorporation of the NO<sub>x</sub> limit, the facility's emissions for NSR regulated air pollutants are all less than the major source thresholds for NSR (40 CFR Section 52.21(b)(1)). Therefore, the facility is considered a synthetic minor source for NSR.

## **2.2 Part 70 permit program**

The facility is a major source under the section 112 of the Clean Air Act (Hazardous Air Pollutants) and therefore is a major source for the Part 70 permit program (Minn. R. 7007.0200, subp. 2(A)(1)).

## **2.3 New source performance standards (NSPS)**

The Permittee has stated that no New Source Performance Standards apply to the operations at this facility.

40 CFR pt. 60, subp. Dc applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h). EQUI 22 commenced construction on November 21, 1987 and therefore is not applicable to 40 CFR pt. 60, subp. Dc.

## **2.4 National emission standards for hazardous air pollutants (NESHAP)**

40 CFR pt. 63, subp. DDDDD applies to industrial, commercial, and institutional boilers and process heaters as defined in 40 CFR Section 63.7575 that are located at, or are part of, a major source of HAPs. Auxiliary boiler, EQUI 22, is subject to this subpart and is an existing affected source. EQUI 22 burns only natural gas and is in the unit designed to burn gas 1 subcategory.

## **2.5 Emission guidelines and compliance times for small municipal waste combustion units constructed on or before August 30, 1999**

40 CFR pt. 60, subp. BBBB requires administrators of air quality programs in a State or United States protectorates with one or more existing small municipal waste combustion units to submit a State plan to the EPA that implements the emission guidelines. The MPCA has not submitted a State plan to implement the emission guidelines, therefore PCSWRR is not subject to 40 CFR pt. 60, subp. BBBB.

## **2.6 Federal plan requirements for small municipal waste combustion units constructed on or before August 30, 1999**

40 CFR pt. 62, subp. JJJ establishes emission requirements and compliance schedules for the control of emissions from existing small municipal waste combustion units that are not covered by an EPA approved and effective State plan. Thus, existing small municipal waste combustors in the State of Minnesota, including PCSWRR, are subject to 40 CFR pt. 62, subp. JJJ.

## **2.7 Minnesota standards for waste combustors**

EQUIs 1 and 19 are subject to Minn. R. 7011.1201 to 7011.1285. In 1997, the MPCA issued variances from various parts of the waste combustor rules, Minn. R. 7011.1201 to 7011.1285 to several Class C waste combustors including PCSWRR. Once the MPCA submits a state plan to implement the emission guidelines of 40 CFR pt. 60, subp. BBBB, PCSWRR will no longer be subject to 40 CFR pt. 62, subp. JJJ and all variances from Minn. R. 7011.1201 to 7011.1285 will no longer be valid.

However, most of the variances issued to PCSWRR have been completed or no longer apply. The 1997 variance provision that still applies and is included in this permit is the particulate matter limit. The dioxins/furans and particulate matter reduced performance test frequency variances were not included in the permit. The 40 CFR pt. 62, subp. JJJ dioxins/furans emission limit is more stringent than the Minn. R 7011.1227 emission limit and the variance issued reduced testing frequency which is based on the Minn. R 7011.1227 emission limit of 350 ng/dscm. Therefore, the dioxins/furans variance reduced testing frequency does not apply. The Minn. R. 7011.1270(B)(2) reduced performance testing frequency is less than the

particulate matter testing frequency variance, however Minn. R. 7011.1270(B)(2) is based on three annual performance tests for a three-year period and therefore is more stringent than the particulate matter reduced performance test frequency variance. Therefore, the particulate matter variance reduced testing frequency also does not apply. The MPCA approved waste combustor rule variance is included as Appendix F to the permit.

The MPCA also issued a variance from Minn. R. 7035.2910 pertaining to ash testing requirements for municipal solid waste (MSW) combustors in 1996. Variances from ash testing requirements include individual analysis of quarterly ash samples and quarterly test frequency. The MPCA approved MSW combustor ash testing variance is included in the permit and as Appendix E to the permit.

## 2.8 Compliance assurance monitoring (CAM)

No emission units are subject to CAM at the time of permit issuance. CAM applies to certain emission units required to obtain a Part 70 permit, subject to an emission limit or standard, use add-on control equipment to achieve compliance with the emission limit or standard, and have pre-control potential emissions of the applicable regulated air pollutant equal or greater than 100 percent of the Part 70 major source level for that pollutant. CAM includes exemptions to the rule which include units that are subject to emission limits and standards promulgated by the EPA after November 15, 1990 pursuant to section 111 or 112 of the Clean Air Act.

EQUI 22 does not use a control device to achieve compliance with an emission limit or standard or have pre-control emissions of applicable regulated air pollutants equal or greater than 100 percent of the Part 70 major source level. CAM does not apply to 40 CFR pt. 62, subp. JJJ, therefore EQUIs 1 and 19 are exempt from CAM.

## 2.9 Environmental review and air emissions risk analysis (AERA)

The permit does not include construction or emissions increases. Therefore, the facility is not subject to environmental review, i.e. an Environmental Assessment Worksheet (EAW), and is not required to perform an Air Emissions Risk Analysis (AERA).

## 2.10 Regulatory Overview

**Table 4. Regulatory overview of facility**

Subject item*	Applicable regulations	Rationale
TFAC 5 - Air Quality Total Facility	Minn. R. 7007.0801	Conditions for Air Emission Permits for Waste Combustors**
	Minn. R. 7035.2910	Municipal Waste Combustor Ash Testing Requirements**
	Minn. R. 7011.1201-1285	Standards for Stationary Sources, Waste Combustors**
COMG 2 – Waste Combustors (EQUI 1, EQUI 19)	Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000	Prevention of Significant Deterioration (PSD). A NO <sub>x</sub> emission limit set to remain below 40 CFR 52.21.
	40 CFR pt. 62, subp. JJJ	Federal plan requirements for small municipal waste combustion units constructed on or before August 30, 1999
	Minn. R. 7011.1201-1285	Standards for Stationary Sources, Waste Combustors**
COMG 4 – Continuous Monitors	40 CFR pt. 62, subp. JJJ	Federal plan requirements for small municipal waste combustion units constructed on or before August 30, 1999
	Minn. R. 7011.1201-1285	Standards for Stationary Sources, Waste Combustors**

<b>Subject item*</b>	<b>Applicable regulations</b>	<b>Rationale</b>
(EQUI 30, EQUI 31, EQUI 32, EQUI 33, EQUI 34, EQUI 35, EQUI 36, EQUI 37, EQUI 38, EQUI 39, EQUI 40, EQUI 41)	40 CFR Section 60.13, Minn. R. 7017.1010-1130	Monitoring and Testing Requirements for Continuous Monitoring Systems
EQUI 1 – Incinerator 2	40 CFR pt. 62, subp. JJJ	Federal plan requirements for small municipal waste combustion units constructed on or before August 30, 1999
	Minn. R. 7011.1201-1285	Standards for Stationary Sources, Waste Combustors**
EQUI 19 – Incinerator 1	40 CFR pt. 62, subp. JJJ	Federal plan requirements for small municipal waste combustion units constructed on or before August 30, 1999
	Minn. R. 7011.1201-1285	Standards for Stationary Sources, Waste Combustors**
EQUI 22 - Boiler	40 CFR pt. 63, subp. DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. Applicability criteria include: <ul style="list-style-type: none"> <li>• the facility is a major source of HAP emissions;</li> <li>• the unit is existing;</li> <li>• the unit burns gas 1 fuel (natural gas only);</li> <li>• the unit uses an oxygen trim system; and</li> <li>• the unit has a heat input capacity greater than or equal to 10 MMBtu/hr.</li> </ul>
	Minn. R. 7011.0515	Standards of Performance for New Indirect Heating Equipment. Per MPCA guidance, this rule applies in addition to the NESHAP. <ul style="list-style-type: none"> <li>• construction of the unit was on or after January 31, 1977;</li> <li>• the unit burns gaseous fuels;</li> <li>• the facility is located outside the cities in Table II of the rule;</li> <li>• the unit capacity is less than or equal to 250 MMBtu/hr; and</li> <li>• the facility has less than or equal to 250 MMBtu/hr of indirect heating equipment.</li> </ul>
EQUI 29 - Continuous Opacity Monitor	40 CFR Section 60.13	Standards of Performance for New Stationary Sources, General Provisions for Monitoring requirements
	40 CFR pt. 62, subp. JJJ	Federal plan requirements for small municipal waste combustion units constructed on or before August 30, 1999
	Minn. R. 7017.1002-1220	Monitoring and Testing Requirements for Continuous Monitoring Systems
EQUI 30 – 41 Continuous Emission Monitors	40 CFR pt. 62, subp. JJJ	Federal plan requirements for small municipal waste combustion units constructed on or before August 30, 1999
	Minn. R. 7011.1201-1285	Standards for Stationary Sources, Waste Combustors**
TREA 1 and 2 Electrostatic Precipitator	40 CFR pt. 62, subp. JJJ	Federal plan requirements for small municipal waste combustion units constructed on or before August 30, 1999
	Minn. R. 7011.1201-1285	Standards for Stationary Sources, Waste Combustors**
	Minn. R. 7007.0800, subp. 4-5	Monitoring and Recordkeeping requirements for control equipment.
TREA 3 and 4 Activated Carbon Adsorption	40 CFR pt. 62, subp. JJJ	Federal plan requirements for small municipal waste combustion units constructed on or before August 30, 1999
	Minn. R. 7011.1201-1285	Standards for Stationary Sources, Waste Combustors**

Subject item*	Applicable regulations	Rationale
	Minn. R. 7007.0800, subp. 4-5	Monitoring and Recordkeeping requirements for control equipment.
TREA 5 and 6 Sodium Bicarbonate Scrubbing	Minn. R. 7007.0800, subp. 4-5	Monitoring and Recordkeeping requirements for control equipment.

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

\*\*The language 'This is a state-only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act' refers to permit requirements that are established only under state law and are not established under or required by the federal Clean Air Act. The language is to clarify the distinction between permit conditions that are required by federal law and those that are required only under state law. State law-only requirements are not enforceable by the EPA or by citizens under the federal Clean Air Act, but are fully enforceable by the MPCA and citizens under provisions of state law.

### 3. Technical information

#### 3.1 Calculations of potential to emit (PTE)

Attachment 1 to this TSD contains Form GI-07, which summarizes the PTE of the Facility and contains detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

The uncontrolled PTE estimates are based on AP-42, Compilation of Air Pollutant Emissions Factors, Section 2.1 emissions factors except for volatile organic compounds (VOC) which are based on AP-42, 4th Edition Supplement C, Sept 1990, Table 2.1-1 "Emission Factors for Municipal Waste Combustors" for uncontrolled and limited PTE, and carbon dioxide equivalent (CO<sub>2</sub>e) which is based on emission factors and global warming potentials from 40 CFR pt. 98 for uncontrolled and limited PTE.

Particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), lead (Pb), hydrogen chloride (HCl), cadmium (Cd), mercury (Hg), and dioxin/furan (PCDD/PCDF) limited PTE is based on applicable limits and AP-42 Table 2.1-11 conversion factors. Arsenic (As), chromium (Cr), and nickel (Ni) limited PTE are based on AP-42, Section 2.1 emissions factors and AP-42 Table 2.1-11 conversion factors. AP-42 Table 2.1-11 conversion factors are for refuse-derived fuel combustors and are used to calculate PTE because these conversion factors are more conservative than the conversion factors for all combustor types except RDF. Particulate matter less than 10 microns (PM<sub>10</sub>) and particulate matter less than 2.5 microns (PM<sub>2.5</sub>) PTE are assumed equal to PM PTE.

PTE can also be calculated based on an F-factor. An F-factor is the calculated exhaust gas flow rate corrected to standards conditions (1 atm, 68 degrees Fahrenheit, and 0 percent O<sub>2</sub>) and is based on fuel analysis, the relative portions of hydrogen, carbon, nitrogen, sulfur, and oxygen and the heat value of the fuel. AP-42, Section 2.1 emissions factors are based on an F-factor of 9,570 dscf/MBtu and the calculated PTE for this permit are based on a heating value of 5,500 Btu/lb.

#### 3.2 Control equipment

Each waste combustor is controlled by an electrostatic precipitator (TREAs 1 and 2) for PM, PM<sub>10</sub>, and PM<sub>2.5</sub>, activated carbon absorber (TREAs 3 and 4) for VOC, mercury, and dioxins/furans, and a sodium carbonate injection scrubber (TREAs 5 and 6) for acid gases. The permit includes calibration, inspection, and recordkeeping requirements to ensure that the control equipment use is enforceable in a practicable manner, however no control efficiencies for the control equipment are included in the permit. PCSWRR conducts performance tests for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, Hg, HCl, and PCDD/PCDF. PCSWRR uses the performance test results and uses the VOC AP-42 emission factor to calculate limited and actual emissions.

### 3.3 Mixed MSW

The Minnesota Pollution Control Agency (MPCA) determined the PCSWRR materials recovery facility (MRF) is capable of producing refuse-derived fuel (RDF) in permit 11900051-001 issued in 2004. Minn. Stat. 116.90 defines RDF:

"Refuse-derived fuel" means a product resulting from the processing of mixed municipal solid waste in a manner that reduces the quantity of noncombustible material present in the waste, reduces the size of waste components through shredding or other mechanical means, and produces a fuel suitable for combustion in existing or new solid fuel fired boilers.

The MPCA interprets the definition of RDF to mean that mixed municipal solid waste must undergo both a type of sorting process to reduce the quantity of noncombustible material and uniform waste size reduction in order to be classified as RDF. Either sorting to reduce the quantity of noncombustible material or uniform size reduction alone does not suffice to meet the RDF classification.

PCSWRR submitted a minor permit application to the MPCA dated November 8, 1995 for the addition of their MRF. This application contained the following description of the MRF:

Waste will be deposited on the existing tipping floor as is the current practice for the incinerator and placed in the feed conveyor by the loader operator. The loader operator will maintain his duties of visual inspection and removal of non-processibles, such as automobile batteries, large pieces of iron, lawn chairs, etc. The waste proceeds up the feed conveyor to the corrugated/newsprint and non-processibles picking stations. Clean pieces of corrugated are manually removed and dropped down chutes on to a conveyor which feeds the baler. Newsprint will be removed in this station, fed into containers or bunks for temporary storage, and baled at a later time.

After the hand pick station, the material proceeds to the separation trommel for bag opening and size separation. The front section of the trommel functions as a bag opener. The next section consists of two screens to size classify the incoming waste stream into three categories: under 2 inches which is largely food waste, grit, stones, broken glass, etc.; 2 inches to 8 inches which is comprised of mostly aluminum/steel/plastic containers; and the over 8 inch size which is mainly contaminated paper, plastic and other combustibles.

The under 2 inch stream will be conveyed directly to a roll-off container for shipment to the landfill. In some cases this material can be converted into compost with some added processing equipment. Polk will evaluate this option at a later date.

The 2 inch to 8 inch stream contains many recyclables and will be conveyed through magnetic separation followed by an eddy current separator for the removal of ferrous and aluminum. The aluminum and ferrous materials will be stored temporarily in containers or bunks, prior to being baled or placed into roll-off boxes as needed for shipment to market. The remaining fraction will be conveyed to combine with the oversize material.

All of the material after the trommel will pass to a final hand pick station for removal of other recyclables or objectionable/problem materials. These materials are dropped down chutes and into containers for storage and shipment for final disposal. The remaining material will be conveyed back to the tipping floor as processed fuel for incinerators.

Based on the operations of the PCSWRR MRF, the MRF is only sorting the waste to reduce the quantity of noncombustible and other unwanted materials. The PCSWRR MRF does not have equipment that reduces the size of waste components through shredding or other mechanical means to achieve a uniform size reduction. Therefore, the MPCA can no longer classify the waste processed at the PCSWRR MRF as RDF.



The waste processed at the PCSWRR MRF qualifies as mixed municipal solid waste. Mixed municipal solid waste is defined under Minn. R. 7011.1201, subp. 34 and has the meaning given in Minnesota Statutes, section 115A.03, subdivision 21:

(a) "Mixed municipal solid waste" means garbage, refuse, and other solid waste from residential, commercial, industrial, and community activities that the generator of the waste aggregates for collection, except as provided in paragraph (b).

(b) Mixed municipal solid waste does not include auto hulks, street sweepings, ash, construction debris, mining waste, sludges, tree and agricultural wastes, tires, lead acid batteries, motor and vehicle fluids and filters, and other materials collected, processed, and disposed of as separate waste streams.

The main difference between burning mixed municipal solid waste and RDF is the frequency of mercury testing. However, because PCSWRR has demonstrated that mercury emissions have been below 50 percent of the facility's permitted long-term limits for three consecutive years, the mercury testing frequency for Polk County will not be affected. Only if a mercury performance test shows mercury emissions greater than 50 percent of the facility's permitted mercury limits, the facility shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the facility demonstrates that mercury emissions are again below 50 percent of the facility's permitted limit, the facility may resume testing every three years, upon notifying the commissioner in writing (Minn. R. 7011.1270 and 40 CFR Section 62.15250).

For combustors burning RDF, a heating value of 5,500 Btu/lb is assumed (AP-42, Section 2.1). The heating value of 5,500 Btu/lb is also used to calculate PTE in this permit and is acceptable because the PCSWRR MRF removes items unable to be processed, recyclables, and other objectionable or problem materials.

### **3.4 Performance testing**

Minn. R. 7011.1270(B)(2) requires performance testing must be conducted not more than 12 months following the initial performance test. 40 CFR Section 62.15240(b) however requires annual stack tests to be conducted no later than 13 months after the previous performance stack test. The MPCA determined that PCSWRR conduct performance tests no later than 12.5 months after the previous test. Requiring performance tests no later than 12.5 months satisfies both Minn. R. 7011.1270(B)(2) and 40 CFR Section 62.15240(b) and is reasonable because testing is unlikely to be scheduled on the same day every year.

Performance test results that meet certain criteria, both Minn. R. 7011.1270 and 40 CFR Section 62.15250 allow for testing on a reduced frequency. 40 CFR Section 62.15250 allows tests for federally regulated pollutants to be completed once every thirty six months if compliance with federal emission limits is demonstrated for three consecutive years. Minn. R. 7011.1270 allows for performance tests for state regulated pollutants to be completed once every thirty months if compliance with state emission limits is demonstrated for three consecutive years except for Mercury which may be reduced from once every quarter (three months) to once every thirty six months if the facility's mercury emissions are less than 50 percent of the state's long term emission limit (60 micrograms per dry standard cubic meter) as measured by annual tests for three consecutive years.

Once the MPCA submits a State plan to implement the federal emission guidelines, the State plan will replace Minn. R. 7011.1270 and 40 CFR Section 62.15250. Based on the eventual implementation of a State plan and existing federal rules, PCSWRR may meet the testing frequency required by 40 CFR Section 62.15250 based on conditions set forth by the MPCA. Both Minn. R. 7011.1270 and 40 CFR Section 62.15250 performance testing frequencies are listed in the permit.

Minn. R. 7011.1201 - 7011.1285 and 40 CFR pt. 62, subp. JJJ PM performance testing requirements are listed separately in the permit. 40 CFR pt. 62, subp. JJJ performance testing requires only the front-half or

filterable PM to be measured. Minn. R. 7011.1201 - 7011.1285 performance testing requires both filterable and condensable PM to be measured.

Performance testing results for EQUI 19 (Incinerator 1) and EQUI 1 (Incinerator 2) are listed in Table 5 and Table 6, respectively.

**Table 5. EQUI 19 performance testing results**

<b>EQUI 19 – Incinerator 1</b>					
Pollutant	Limit	Test Result	Test Date	Compliance	
Mercury	1000 micrograms (µg)/dscm (short term) 600 µg/dscm (long term)	41.83 µg/dscm	March 17-19, 1999	Compliant	
		7.3 x 10 <sup>-4</sup> lb/hr			
		4.8 x 10 <sup>-4</sup> lb/ton waste	March 14-16, 2000	Compliant	
		94 µg/dscm			
		0.0014 lb/hr			
		0.0010 lb/ton of waste	March 12-13, 2001	Compliant	
		10 µg/dscm			
	0.00014 lb/hr				
	0.00009 lb/ton of waste	March 12-13, 2002	Compliant		
	62.2 µg/dscm				
	80 and 60 µg/dscm	80 and 60 µg/dscm	7.3 µg/dscm	March 10, 2003	Compliant
			11.25 µg/dscm	March 16-17, 2004	Compliant
		80 and 60 µg/dscm	16.83 µg/dscm	April 4-7, 2005	Compliant
			5.1 µg/dscm	April 11-14, 2006	Compliant
		100 and 80 µg/dscm	1.7 µg/dscm	April 9-13, 2007	Compliant
			32.29 µg/dscm	September 27, 2007	Compliant
			3.56 µg/dscm	October 5, 2007	Compliant
9.38 µg/dscm			April 26-30, 2010	Compliant	
80 and 60 µg/dscm		4.01 µg/dscm	April 22-26, 2013	Compliant	
		6.08 µg/DSCM	April 25-29, 2016	Compliant	
	3.14 µg/dscm	April 23-26, 2019	Compliant		
	176 ng/dscm	August 22-23, 2000	Compliant		
Dioxins/Furans (PCDD/PCDF)	500 nanograms (ng)/dscm	(without PAC)	August 19-22, 2002	Compliant	
		798.2 ng/dscm			
		(injecting PAC)	August 24-26, 2004	Compliant	
		(93% control)			
	53.3 ng/dscm	500 and 125 ng/dscm	April 4-7, 2005	Compliant	
	101.13 ng/dscm				
	42.4 ng/dscm				
	11.2 ng/dscm				
	4.7 ng/dscm				
	4.6 ng/dscm				
	37.52 ng/dscm				
	37.52 ng/dscm	April 26-30, 2010	Compliant		
	7.18 ng/DSCM	April 22-26, 2013	Compliant		
	April 25-29, 2016	Compliant			

		18.16 ng/dscm	April 23-26, 2019	Compliant
Particulate Matter	0.04 grains (gr)/dscf	0.0084 gr/dscf	March 14-16, 2000	Compliant
		0.31 lb/hr		
		0.19 lb/ton of waste		
		0.0044 gr/dscf	March 12-13, 2002	Compliant
		0.0045 gr/dscf	March 16-17, 2004	Compliant
		0.018 gr/dscf	April 4-7, 2005	Compliant
		0.010 gr/dscf	April 11-14, 2006	Compliant
	0.0055 gr/dscf	April 9-13, 2007	Compliant	
	0.026 gr/dscf	September 27, 2007	Compliant	
	0.021 gr/dscf	October 5, 2007	Compliant	
	0.020 gr/dscf	0.017 gr/dscf	April 26-30, 2010	Compliant
	0.15 gr/dscf	0.0098 mg/dscm	April 26-30, 2010	Compliant
	0.04 grains gr/dscf	0.0036 gr/dscf	April 22-26, 2013	Compliant
0.021 gr/dscf		April 25-29, 2016	Compliant	
0.0106 gr/dscf		April 23-26, 2019	Compliant	
Front-half Particulate Matter (FHPM)	70 milligrams (mg)/dscm	3.70 mg/dscm	April 4-7, 2005	Compliant
		23.6 mg/dscm	April 11-14, 2006	Compliant
		12.0 mg/dscm	April 9-13, 2007	Compliant
		36.0 mg/dscm	April 26-30, 2010	Compliant
		5.89 mg/dscm	April 22-26, 2013	Compliant
		47.11 mg/dscm	April 25-29, 2016	Compliant
		17.48 mg/dscm	April 23-26, 2019	Compliant
Opacity	10%	0%	March 14-16, 2000	Compliant
		0.4%	March 12-13, 2002	Compliant
		0%	March 16-17, 2004	Compliant
		0%	June 13-14, 2005	Compliant
		1.2%	April 11-14, 2006	Compliant
		2.6%	April 9-13, 2007	Compliant
		1.3%	April 26-30, 2010	Compliant
Cadmium	-	4 µg/dscm	March 14-16, 2000	Compliant
		0.00006 lb/hr		
		2 µg/dscm	March 12-13, 2001	Compliant
		46 lb/hr		
	0.10 mg/dscm	1.9 µg/dscm	March 13-13, 2002	Compliant
		3.7 µg/dscm	March 10, 2003	Compliant
		0.029 mg/dscm	April 4-7, 2005	Compliant
		0.067 mg/dscm	April 11-14, 2006	Compliant
		0.0066 mg/dscm	April 9-13, 2007	Compliant
		0.23 µg/dscm	September 27, 2007	Compliant
		0.24 µg/dscm	October 5, 2007	Compliant
		0.07415 mg/dscm	April 26-30, 2010	Compliant
		0.005 mg/dscm	April 22-26, 2013	Compliant
0.035 mg/dscm	April 25-29, 2016	Compliant		
0.0259 mg/dscm	April 23-26, 2019	Compliant		

Lead	-	53 µg/dscm 0.008 lb/hr	March 14-16, 2000	Compliant
		46 µg/dscm 0.0006 lb/hr	March 12-13, 2001	Compliant
		33.0 µg/dscm	March 12-13, 2002	Compliant
		100.5 µg/dscm	March 10, 2003	Compliant
	1.6 mg/dscm	0.83 mg/dscm	April 4-7, 2005	Compliant
		0.36 mg/dscm	April 11-14, 2006	Compliant
		0.14 mg/dscm	April 9-13, 2007	Compliant
		1.28 µg/dscm	September 27, 2007	Compliant
		0.64 µg/dscm	October 5, 2007	Compliant
		0.74 mg/dscm	April 26-30, 2010	Compliant
		0.068 mg/dscm	April 22-26, 2013	Compliant
		0.983 mg/dscm	April 25-29, 2016	Compliant
		0.5322 mg/dscm	April 23-26, 2019	Compliant
Hydrogen Chloride	250 ppm or 50% removal efficiency	180.4 ppm	April 4-7, 2005	Compliant
		287 ppm or 65.7% removal	April 11-14, 2006	Compliant
		221 ppm or 62.8% removal	April 9-13, 2007	Compliant
		197.8 ppm or 67.4% removal	April 26-30, 2010	Compliant
		157.85 ppm or 74.1% Removal	April 22-26, 2013	Compliant
		138.46 ppm (73.1% Removal)	April 25-29, 2016	Compliant
		85.95 ppm	April 23-26, 2019	Compliant
Fugitive Ash	5% of observation period	0%	April 4-7, 2005	Compliant
		0%	April 11-14, 2006	Compliant
		0%	April 9-13, 2007	Compliant
		0%	April 26-30, 2010	Compliant
		0%	April 22-26, 2013	Compliant
Steam Flow	-	13,031 lb/hr	August 19-22, 2002	NA
		15,791 lb/hr	April 4-7, 2005	NA
		14,891 lb/hr	April 9-13, 2007	NA
		15,409 lb/hr	April 11-14, 2006	NA
		15,163 lb/hr	May 6-7, 2008	NA
		15,164 lb/hr	April, 26-30, 2010	NA
		15,564 lb/hr	April 22-26, 2013	NA
		15, 144 lb/hr	April 25-29, 2016	NA
		14,180 lb/hr	April 23-26, 2019	NA

**Table 6. EQUI 1 performance testing results**

<b>EQUI 1 – Incinerator 2</b>					
Pollutant	Limit	Test Result	Test Date	Compliance	
Mercury	1000 micrograms (µg)/dscm (short term) 600 µg/dscm (long term)	24.01 µg/dscm at 7% O2 4.5 x 10-4 lb/hr 2.7 x 10-4 lb/ton waste	March 17-19, 1999	Compliant	
		191 µg/dscm at 7% O2 0.003 lb/hr 0.0018 lb/ton waste	March 14-16, 2000	Compliant	
		14 µg/dscm at 7% O2 0.00019 lb/hr 0.00013 lb/ton waste	March 12-13, 2001	Compliant	
		110.7 µg/dscm	March 12-13, 2002	Compliant	
		19.0 µg/dscm	March 10, 2003	Compliant	
		7.77 micrograms/dscm	March 16-17, 2004	Compliant	
	80 and 60 µg/dscm	9.04 µg/dscm	April 4-7, 2005	Compliant	
	100 and 80 µg/dscm	10 µg/dscm	April 11-14, 2006	Compliant	
		2.0 µg/dscm	April 9-13, 2007	Compliant	
		32.29 µg/dscm	September 27, 2007	Compliant	
		3.56 µg/dscm	October 5, 2007	Compliant	
	80 and 60 µg/dscm	7.48 µg/dscm	April 26-30, 2010	Compliant	
		2.15 ug/dscm	April 22-26, 2013	Compliant	
		5.49 µg/dscm	April 25-29, 2016	Compliant	
		2.86 µg/dscm	April 23-26, 2019	Compliant	
	Dioxins/Furans (PCDD/PCDF)	500 nanograms (ng)/dscm	500 ng/dscm	August 22-23, 2000	Compliant
			(injecting PAC) (78% control) 34.9 ng/dscm	August 19-22, 2002	Compliant
(without PAC) 159.5 ng/dscm					
17.23 ng/dscm			August 24-26, 2004	Compliant	
500 and 125 ng/dscm		19.7 ng/dscm	April 4-7, 2005	Compliant	
		4.1 ng/dscm	April 11-14, 2006	Compliant	
		19.65 ng/dscm	April 9-13, 2007	Compliant	
		3.4 ng/dscm	May 6-7, 2008	Compliant	
		5.35 ng/dscm	April 26-30, 2010	Compliant	
		4.91 ng/dscm	April 22-26, 2013	Compliant	
	11.6 ng/DSCM	April 25-29, 2016	Compliant		
39.59 ng/dscm	April 23-26, 2019	Compliant			
Particulate Matter	0.04 grains (gr)/dscf	0.0088 gr/dscf 0.28 lb/hr 0.18 lb/ton	March 14-16, 2000	Compliant	
		0.0067 gr/dscf	March 12-13, 2002	Compliant	

		0.0060 gr/dscf	March 16-17, 2004	Compliant
		0.012 gr/dscf	April 4-7, 2005	Compliant
		0.0078 gr/dscf	April 9-13, 2007	Compliant
		0.0058 gr/dscf	April 11-14, 2006	Compliant
		0.026 gr/dscf	September 27, 2007	Compliant
		0.021 gr/dscf	October 5, 2007	Compliant
	0.020 gr/dscf	0.007 gr/dscf	April 26-30, 2010	Compliant
	0.15 gr/dscf	0.0036 mg/dscm	April 26-30, 2010	Compliant
	0.04 grains gr/dscf	0.008 gr/dscf	April 22-26, 2013	Compliant
		0.013 gr/dscf	April 25-29, 2016	Compliant
		0.0053 gr/dscf	April 23-26, 2019	Compliant
Front-half Particulate Matter (FHPM)	70 milligrams (mg)/dscm	2.39 mg/dscm	April 4-7, 2005	Compliant
		13.2 mg/dscm	April 11-14, 2006	Compliant
		16.9 mg/dscm	April 9-13, 2007	Compliant
		12.9 mg/dscm	April 26-30, 2010	Compliant
		14.98 mg/dscm	April 22-26, 2013	Compliant
		29.84 mg/DSCM	April 25-29, 2016	Compliant
		8.83 mg/dscm	April 23-26, 2019	Compliant
Opacity	10%	0%	March 14-16, 2000	Compliant
		0%	March 12-13, 2002	Compliant
		0%	March 16-17, 2004	Compliant
		0%	June 13-14, 2005	Compliant
		1.2%	April 11-14, 2006	Compliant
		2.6%	April 9-13, 2007	Compliant
		1.2%	April 26-30, 2010	Compliant
Cadmium	-	1.3 µg/dscm	March 14-16, 2000	Compliant
		0.9 µg/dscm	March 12-13, 2001	Compliant
		1.0 µg/dscm	March 12-13, 2002	Compliant
		3.8 µg/dscm	March 10, 2003	Compliant
	0.10 mg/dscm	0.020 mg/dscm	April 4-7, 2005	Compliant
		0.0089 mg/dscm	April 11-14, 2006	Compliant
		0.0037 mg/dscm	April 9-13, 2007	Compliant
		0.23 µg/dscm	September 27, 2007	Compliant
		0.24 µg/dscm	October 5, 2007	Compliant
		0.07415 mg/dscm	April 26-30, 2010	Compliant
		0.024 mg/dscm	April 22-26, 2013	Compliant
0.030 mg/DSCM	April 25-29, 2016	Compliant		
0.012 mg/dscm	April 23-26, 2019	Compliant		
Lead	-	46 µg/dscm	March 14-16, 2000	Compliant
		0.0007 lb/hr		
		16 µg/dscm	March 12-13, 2001	Compliant
		0.0002 lb/hr		
		16.6 µg/dscm	March 12-13, 2002	Compliant
		148.4 µg/dscm	March 10, 2003	Compliant

	1.6 mg/dscm	0.50 mg/dscm	April 4-7, 2005	Compliant
		0.19 mg/dscm	April 11-14, 2006	Compliant
		0.080 mg/dscm	April 9-13, 2007	Compliant
		1.28 µg/dscm	September 27, 2007	Compliant
		0.64 µg/dscm	October 5, 2007	Compliant
		0.2664 mg/dscm	April 26-30, 2010	Compliant
		0.324 mg/dscm	April 22-26, 2013	Compliant
		0.428 mg/DSCM	April 25-29, 2016	Compliant
		0.16 mg/dscm	April 23-26, 2019	Compliant
Hydrogen Chloride	250 ppm or 50% removal efficiency	58.5%	April 4-7, 2005	Compliant
		271 ppm or 56.3% removal	April 11-14, 2006	Compliant
		229 ppm or 66.3% removal	April 9-13, 2007	Compliant
		239.2 ppm or 63.6% removal	April 26-30, 2010	Compliant
		175.17 ppm or 70.6% Removal	April 22-26, 2013	Compliant
		70.6 ppm (70.6% Removal)	April 25-29, 2016	Compliant
		100.27 ppm	April 23-26, 2019	Compliant
Fugitive Ash	5% of observation period	0%	April 4-7, 2005	Compliant
		0%	April 11-14, 2006	Compliant
		0%	April 9-13, 2007	Compliant
		0%	April 26-30, 2010	Compliant
		0%	April 22-26, 2013	Compliant
Steam Flow	-	13,079 lb/hr	August 19-22, 2002	NA
		13,388 lb/hr	April 4-7, 2005	NA
		14,727 lb/hr	June 13-14, 2005	NA
		14,673 lb/hr	April 9-13, 2007	NA
		16,200 lb/hr	April 11-14, 2006	NA
		15,164 lb/hr	April 26-30, 2010	NA
		15,508 lb/hr	April 22-26, 2013	NA
		14,035 lb/hr	April 25-29, 2016	NA
		14,625 lb/hr	April 23-26, 2019	NA

### 3.5 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**

<b>Subject Item*</b>	<b>Requirement (basis)</b>	<b>What is the monitoring?</b>	<b>Why is this monitoring adequate?</b>
COMG 2 (EQUIs 1 and 19)	NO <sub>x</sub> <= 80 tons per year 12-month rolling sum [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]	Daily and monthly recordkeeping and monthly calculation of the NO <sub>x</sub> 12-month rolling sum.	Records of the amount of refuse combusted can be generated on a daily basis. Daily records can be used to calculate the total amount of refuse combusted each month. The monthly totals can then be used to calculate the NO <sub>x</sub> 12-month rolling sum. Therefore, a 12-month rolling limit is reasonable for this Facility.
EQUI 1 (Incinerator 2) and EQUI 19 (Incinerator 1)	Muni Waste Combust Organics <= 500 ng/dscm. [Minn. R. 7011.1227]	Performance testing: annually or every 30/36 months if qualified for a reduced testing frequency	Monitoring required by the Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standards.
	Muni Waste Combust Organics <= 125 ng/dscm. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]		
	PM <= 70 mg/dscm. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]	Performance testing: annually or every 30/36 months if qualified for a reduced testing frequency	
	PM <= 0.04 gr/dscf. [Minn. R. 7000.7000, variance (12/22/1997), Minn. R. 7011.1227]		
Opacity <= 10% opacity. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]	Performance testing: annually or every 30/36 months if qualified for a reduced testing	Monitoring required by the Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standards.	



Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
	Opacity <= 10% opacity. [Minn. R. 7011.1227]	frequency, or COMS	The Permittee may use COMS data in lieu of Method 9 performance testing as required by Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ to determine compliance with opacity limits as approved by the EPA on March 8, 2006.
	CO <= 50 ppm. [Minn. R. 7011.1227]	CEMS	Monitoring required by the Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standards.
	CO <= 50 ppm, 4-hour block average by dry volume. [40 CFR 62.15160(a)(3), 40 CFR pt. 62, subp. JJJ, Table 5]		
	Hg <= 100 µg/dscm, or 85% removal (short term), whichever is less stringent. [Minn. R. 7011.1227]	Performance testing: annually or every 36 months if qualified for a reduced testing frequency	Monitoring required by the Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standards.
	Hg <= 60 µg/dscm, or 85% removal (long term), whichever is less stringent. [Minn. R. 7011.1227]		
	Hg <= 0.080 mg/dscm (or 85% reduction of potential Hg emissions). [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]		
	SO <sub>2</sub> <= 77 ppm (or 50% reduction of potential SO <sub>2</sub> emissions). [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]	CEMS	Monitoring required by 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standard.

Subject Item*	Requirement (basis)	What is the monitoring?	Why is this monitoring adequate?
	NO <sub>x</sub> <= 500 ppm by dry volume. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]	No monitoring, testing, record keeping, or reporting is required to demonstrate compliance.	Five hundred parts per million is equal to 12.4 lb NO <sub>x</sub> /hour for each unit. The potential-to-emit for each of these units is 6.2 lb NO <sub>x</sub> /hour.
	Cd <= 0.10 mg/dscm. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]	Performance testing: annually or every 36 months if qualified for a reduced testing frequency	Monitoring required by 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standard.
	HCl <= 250 ppm by volume (or 50 percent reduction of potential HCl emissions). [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]	Performance testing: annually or every 36 months if qualified for a reduced testing frequency	Monitoring required by 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standard.
	Pb <= 1.6 mg/dscm. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]	Performance testing: annually or every 36 months if qualified for a reduced testing frequency	Monitoring required by 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standard.
	Visible Emissions <= 5% of fugitive combustion ash. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4, Minn. R. 7011.1225, subp. 1(B)]	Performance testing: annually or every 36 months if qualified for a reduced testing frequency	Monitoring required by 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standard.
	Steam Flow <= 14,624.5 lb/hr, 4-hour block average. [40 CFR 62.15145(a), 40 CFR 62.15145(e), Minn. R. 7011.1240, subp. 5, Minn. R. 7017.2025, subp. 3]	Continuous monitoring; performance testing	Monitoring required by the Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standards.

<b>Subject Item*</b>	<b>Requirement (basis)</b>	<b>What is the monitoring?</b>	<b>Why is this monitoring adequate?</b>
EQUI 22 (Boiler)	Opacity <= 20% opacity except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.0515, subp. 2]	Recordkeeping: monthly fuel records	This unit uses natural gas; therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limits by only burning natural gas. Design based PTE for the unit, using AP-42, is 0.007 lb/MMBtu of PM compared to the rule limit of 0.40 lb/MMBtu of PM.
	Filterable PM <= 0.60 lb/MMBtu heat input. [Minn. R. 7011.0515, subp. 1]		
	Work Practice Standards [40 CFR pt. 63, subp. DDDDD]	Boiler tune-ups every 5 years; maintain an optimum air to fuel ratio; recordkeeping, reporting	Monitoring required by 40 CFR pt. 63, subpart DDDDD is adequate to demonstrate compliance with the requirements of the standard because this standard was promulgated after November 15, 1990, and post-November 15, 1990, NSPS and NESHAPs contain adequate monitoring requirements.
TREA 1 (Electrostatic Precipitator)	Temperature >= 405 degrees F [40 CFR 62.15145(b), Minn. R. 7011.1240, subp. 2, Minn. R. 7017.2025, subp. 3]	Continuous monitoring; performance testing	Monitoring required by the Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standards.
	Opacity <= 10 % opacity [Minn. R. 7007.0800, subp. 2(A)]	COMS	The Permittee uses COMS data in lieu of Method 9 performance testing as required by Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ to determine compliance with opacity limits as approved by the EPA on March 8, 2006.
	Secondary Voltage >= 33.5 kilovolts for each field [Minn. R. 7007.0800, subp. 2(A)]	Monitoring at least once every 2 hours and recordkeeping	Monitoring and recordkeeping can be done at least every two hours. The records can then be used to calculate a daily average to determine compliance with the limit. Monitoring and recordkeeping for secondary voltage is required to maintain and ensure proper ESP performance to demonstrate compliance with applicable requirements.
	Fields online >= 2 fields [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]	Daily monitoring and recordkeeping	Monitoring and recordkeeping can be done daily. Monitoring and recordkeeping for fields online is required to maintain and ensure proper ESP performance to demonstrate compliance with applicable requirements.

<b>Subject Item*</b>	<b>Requirement (basis)</b>	<b>What is the monitoring?</b>	<b>Why is this monitoring adequate?</b>
TREA 2 (Electrostatic Precipitator)	Temperature >= 407 degrees F [40 CFR 62.15145(b), Minn. R. 7011.1240, subp. 2, Minn. R. 7017.2025, subp. 3	Continuous monitoring; performance testing	Monitoring required by the Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ is adequate to demonstrate compliance with the standards.
	Opacity <= 10 % opacity [Minn. R. 7007.0800, subp. 2(A)]	COMS	The Permittee uses COMS data in lieu of Method 9 performance testing as required by Minnesota Standards of Performance for Waste Combustors and 40 CFR pt. 62, subp. JJJ to determine compliance with opacity limits as approved by the EPA on March 8, 2006.
	Secondary Voltage >= 34.2 kilovolts for each field [Minn. R. 7007.0800, subp. 2(A)]	Monitoring at least once every 2 hours and recordkeeping	Monitoring and recordkeeping can be done at least every two hours. The records can then be used to calculate a daily average to determine compliance with the limit. Monitoring and recordkeeping for secondary voltage is required to maintain and ensure proper ESP performance to demonstrate compliance with applicable requirements.
	Fields online >= 2 fields [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]	Daily monitoring and recordkeeping	Monitoring and recordkeeping can be done daily. Monitoring and recordkeeping for fields online is required to maintain and ensure proper ESP performance to demonstrate compliance with applicable requirements.
TREA 3 and TREA 4 (Activated Carbon Adsorption)	Hg additive >= 1.5 pounds per hour 8-hour block average as determined from the most recent compliant Hg performance test or the most recent compliant PCDD/PCDF performance test. [Minn. R. 7011.1272]	Continuous monitoring; quarterly additive usage calculations; performance testing	Monitoring required by the Minnesota Standards of Performance for Waste Combustors is adequate to demonstrate compliance with the standard.
TREA 5 and TREA 6 (Sodium Bicarbonate Scrubbing)	Sodium Bicarbonate feed rate >= 41.0 pounds per hour, 1-hour average	Continuous monitoring; performance testing	Continuous monitoring and recordkeeping for hourly feed rate when EQUIs 1 and/or 19 are in operation is required to maintain and ensure TREAs 5 and 6 proper performance to demonstrate compliance with applicable requirements.

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

### 3.6 Insignificant activities

Polk County Solid Waste Facility has some 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
Nonhazardous air pollutant VOC storage tanks with total capacity not more than 10,000 gallons meeting certain vapor pressure requirements	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)  <i>1,000 gallon ammonia storage tank</i>	The storage tank is not expected to emit particulate matter, therefore the unit is highly unlikely to violate the applicable requirements.
Brazing, soldering, torch-cutting, or welding equipment	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)  <i>Welding equipment</i>	For welding equipment, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirements.
Individual units with potential emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0715)  <i>MSW unloading, Materials Recovery Facility (MRF)</i>	MSW unloading operations are intermittent and are operated inside a building. MSW unloading is unlikely to violate the applicable requirements.  The MRF is also operated inside a building and are unlikely to violate the applicable requirements. The MRF includes a fresh air make-up unit designed to maintain the building under negative pressure. A dust removal system is also incorporated with exhaust hoods and a baghouse is utilized to collect dust and recirculate air within the MRF and processing building.
Fugitive dust emissions from unpaved roads and parking lots	Requirement to take reasonable measures to prevent PM from becoming airborne (Minn. R. 7011.0150)	The Facility has few unpaved parking lots and private roads. The draft/proposed permit contains a general requirement that this standard must be met.

### 3.7 Permit organization

This permit mostly meets the MPCA Tempo Guidance for ordering and grouping of requirements as well as the use of permit appendices. However, federal requirements from NESHAPs are included in a different format than the standard format. The requirements for 40 CFR pt. 63, subp. DDDDD and the associated General Provisions in 40 CFR pt. 63, subp. A are included as a requirement in Section 5 of the permit that lists the citations of all of the applicable parts of the standard along with a reference to the permit appendix where the full text of the standard is included. 40 CFR pt. 63, subp. DDDDD and 40 CFR pt. 63, subp. A are included in Appendices B and C, respectively.

### **3.8 Comments received**

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

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

This section will be completed after the referenced review periods.

### **4. Permit fee assessment**

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

### **5. Conclusion**

Based on the information provided by Polk County Solid Waste Facility the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 11900051-101 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff members on permit team: Andrea Walkush (permit engineer)  
Bruce Braaten (peer reviewer)  
Clint Leeper (compliance and enforcement)  
Marc Severin (performance testing)  
Joe Handtmann (permit writing assistant)  
Laurie O'Brien (administrative support)

TEMPO360 Activities: Part 70 Reissuance (IND20080001)

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

**Attachment 1 – PTE Summary and Calculation Spreadsheets**

- Use this form to calculate emissions for processes or units that cannot be accounted for in the process/unit specific emissions calculation forms.  
 - Duplicate this form as necessary to identify all emission units, or attach sheets with equivalent information.

AG Facility ID No.: 11502051  
 Facility Name: Pub. County Solid Waste Resource Recovery Facility  
 Emission Unit ID: C001  
 Emissions Unit Description: MSW Combustor #2  
 Stack/Vent ID: STW111T02 (Single Stack)  
 Control Equipment (Eq): TREA 1 (ESP), TREA 2 (PAC), TREA 3 (Sodium Chlorate Scrubbing)  
 Process Type: Continuous  
 Operating Capacity:  
 Heating Value: 5.50 (Btu/lb) Heating value  
 Maximum Designed Heat Input: 17,500,000 (Btu/hr) Calculated from heating value of 5500 Btu/lb and design mass throughput  
 Maximum Waste Throughput: 38.3 (Tons/day) Calculated  
 Maximum Waste Throughput: 7.65 (Tons/yr) Calculated  
 Maximum Waste Throughput: 11,076 (Tons/yr) Calculated  
 Unit Specific Info for Actual Calculations - 2016:  
 Waste Throughput: 10,327 (Tons/yr) Facility records, 2016 maximum waste throughput emissions inventory  
 Operating Hours: 3,152 (Hours) Facility records, 2016 emissions inventory  
 Throughput: 1.27 (Tons/hr) Calculated  
 Airflow Data: 1,528 (SCFM) 2016 Performance test average  
 P Factor: 356,473 (BSCF/Ton) Calculated  
 P Factor: 10,093 (BSCF/Ton) Calculated  
 Oxygen Data: 22.2% (O<sub>2</sub> % by dry) 2016 Performance test average

Calculations Summary:

Pollutant Name	Uncontrolled Emissions Factors (lb/hr MSW)	ESP Controlled Emissions Factors (lb/hr MSW)	Uncontrolled Emissions Factor Source	Maximum Emissions (lb/hr)	Maximum Uncontrolled Emissions (Tons/Yr)	Pollution Control Efficiency	Control Efficiency Source	Limited Controlled Emissions (Tons/Yr)	Actual Emissions (Tons/Yr)	
PM	4.19E+00	4.25E-01	AP-42, Table 2-1.0	1.10	29.3	0.0%	94% control efficiency based on Minn. 8, 7011.1003, Electrostatic Precipitator; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	4.82	Calculated from PM limit and AP-42 Table 2-1.11 conversion factor	1.9
PM <sub>10</sub>	4.19E+00		AP-42, Table 2-1.0	1.10	29.3	0.0%	94% control efficiency based on Minn. 8, 7011.1003, Electrostatic Precipitator; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	4.82	See equal to limited PM	1.9
PM <sub>2.5</sub>	4.19E+00		AP-42, Table 2-1.0	1.10	29.3	0.0%	94% control efficiency assumed equal to PM10 control efficiency; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	4.82	See equal to limited PM	1.9
SO <sub>2</sub>	3.95E+00		AP-42, Table 2-1.0	3.2	27.6	0.0%	90% SO <sub>2</sub> control efficiency based on EPA guidance; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit <a href="https://www.epa.gov/airquality/epa-guidance-air-quality-standards-for-sulfur-dioxide">https://www.epa.gov/airquality/epa-guidance-air-quality-standards-for-sulfur-dioxide</a>	14.1	Calculated from SO <sub>2</sub> limit and AP-42 Table 2-1.11 conversion factor	3.8
NO <sub>x</sub>	3.88E+00		AP-42, Table 2-1.0	15.1	27.0	0.0%	94% VOC control efficiency based on EPA guidance; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit <a href="https://www.epa.gov/airquality/epa-guidance-air-quality-standards-for-volatile-organic-compounds">https://www.epa.gov/airquality/epa-guidance-air-quality-standards-for-volatile-organic-compounds</a>	66.0	Calculated from NO <sub>x</sub> limit and AP-42 Table 2-1.11 conversion factor; "90 by limit on COMG-2"	19.9
VOC	1.02E-01		AP-42, Section Supplement C, Sep 1990, Table 2-1.1 "Emission Factors for Nonferrous Metal Combustion"	0.18	0.70	0.0%	94% VOC control efficiency based on EPA guidance; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit <a href="https://www.epa.gov/airquality/epa-guidance-air-quality-standards-for-volatile-organic-compounds">https://www.epa.gov/airquality/epa-guidance-air-quality-standards-for-volatile-organic-compounds</a>	0.70	Calculated using PAC control efficiency	0.52
CO	3.65E-01		AP-42, Table 2-1.0	0.92	2.6	0.0%		4.02	Calculated from CO limit and AP-42 Table 2-1.11 conversion factor	0.19
Lead	1.72E-01	3.49E-03	Calculated from controlled AP-42, Table 2-1.9 emission factor	0.025	1.20	0.0%	Assumed equal to PM control efficiency according to AP-42 emission factor ratio of controlled/uncontrolled; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	0.110	Calculated from Lead limit and AP-42 Table 2-1.11 conversion factor	0.028
CO <sub>2</sub>	4.52E+02		40 CFR pt. 60	722	3,160	0.0%		3,160	Calculated	2,336
CH <sub>4</sub>	1.62E-01		40 CFR pt. 60	0.24	1.12	0.0%		1.12	Calculated	0.82
N <sub>2</sub> O	2.10E-02		40 CFR pt. 60	0.02	0.15	0.0%		0.15	Calculated	0.11
CO <sub>2e</sub>			40 CFR pt. 60	738	3,233	0.0%		3,233	Calculated	2,389
HCl	2.65E+00		AP-42, Table 2-1.0	5.98	18.4	0.0%	Assumed 50% according to performance test results and permit limit; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	28.2	Calculated from HCl limit and AP-42 Table 2-1.11 conversion factor	14.4
Cadmium	2.95E-03	5.61E-04	AP-42, Table 2-1.0	1.57E-03	2.09E-02	0.0%	Assumed 97% according to AP-42 emission factor ratio of controlled/uncontrolled; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	6.88E-03	Calculated from Cadmium limit and AP-42 Table 2-1.11 conversion factor	1.50E-03
Mercury	6.84E-03		AP-42, Table 2-1.0	9.43E-04	4.79E-02	0.0%	Assumed 90% according to EPA guidance; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit <a href="https://www.epa.gov/airquality/epa-guidance-air-quality-standards-for-mercury">https://www.epa.gov/airquality/epa-guidance-air-quality-standards-for-mercury</a>	4.13E-03	Calculated from Mercury limit and AP-42 Table 2-1.11 conversion factor	3.52E-04
PCDD/PCDF	3.59E-06		AP-42, Table 2-1.0	1.99E-06	2.51E-05	0.0%	Assumed 78% according to performance test results; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	8.65E-06	Calculated from PCDD/PCDF limit and AP-42 Table 2-1.11 conversion factor	7.95E-07
Arsenic	8.19E-04	1.29E-04	AP-42, Table 2-1.0	1.30E-03	5.71E-03	0.0%	Assumed 94% according to AP-42 emission factor ratio of controlled/uncontrolled; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	8.97E-04	Calculated	4.22E-03
Chromium	4.05E-03	7.53E-04	AP-42, Table 2-1.0	6.45E-03	2.83E-02	0.0%	Assumed 97% according to AP-42 emission factor ratio of controlled/uncontrolled; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	5.29E-03	Calculated	2.09E-02
Nickel	6.75E-03	1.23E-03	AP-42, Table 2-1.0	1.08E-02	4.71E-02	0.0%	Assumed 90% according to AP-42 emission factor ratio of controlled/uncontrolled; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	8.63E-03	Calculated	3.48E-02

**PM EMISSIONS:**  
 Limited PM Emissions 0.040 g/DSCF Connected to 7% Oxygen per December 22, 1997 Combustor Variance  
 70.000 milligrams/DSCM Connected to 7% Oxygen per 40 CFR 62 Subpart JJJ, Table 4  
 Actual PM Emissions 0.0130 g/DSCF Connected to 7% Oxygen - 2016 Performance test average  
 0.007 g/DSCF Uncontrolled (Adjusted for facility's 2016 Performance test average oxygen concentration)  
 0.478 lb/yr - 2016 Performance test average

**SO<sub>2</sub> EMISSIONS:**  
 Limited SO<sub>2</sub> Emissions 77.0 ppmv Connected to 7% Oxygen per 40 CFR 62 Subpart JJJ, Table 4  
 Actual SO<sub>2</sub> Emissions 24.2 ppm at 7% oxygen; test result average from 2016 PM performance test operating parameters

**CO EMISSIONS:**  
 Limited CO Emissions 50.0 ppmv Connected to 7% Oxygen per MR 7011.1227, Table 1 & 40 CFR 62 Subpart JJJ, Table 5  
 Actual CO Emissions 1.41 ppm at 7% oxygen; test result average from 2016 Mercur performance test operating parameters

**NO<sub>x</sub> EMISSIONS:**  
 Limited NO<sub>x</sub> Emissions 500.0 ppmv Connected to 7% Oxygen per 40 CFR 62 Subpart JJJ, Table 4  
 Limited NO<sub>x</sub> Emissions 80.0 tpy, COMG 2 limit

**LEAD EMISSIONS:**  
 Limited Lead Emissions 1.600 milligrams/DSCM Connected to 7% Oxygen per 40 CFR 62 Subpart JJJ, Table 4



- Use this form to calculate emissions for processes or units that cannot be accounted for in the process/unit specific emissions calculation forms.  
 - Duplicate this form as necessary to identify all emission units, or attach sheets with equivalent information.

AQ Facility I.D. No.: 21900051  
 Facility Name: Polk County Solid Waste Resource Recovery Facility  
 Emission Unit ID: EQUI 19  
 Emissions Unit Description: MSW Combustor # 1  
 Stack/Vent ID: STRU 1, STRU 2 (dump stack)  
 Control Equipment ID(s): TREA 1 (ESP, HE), TREA 3 (PAC), TREA 5 (Sodium Carbonate Scrubbing)  
 Process Type: Continuous  
 Operating Capacity:  
 Heating Value: 5,500 (Btu/lb) Heating value  
 Maximum Designed Heat Input: 17,550,000 (Btu/hr) Calculated from heating value of 5500 Btu/lb and design mass throughput  
 Maximum Waste Throughput: 38.3 (Tons/day) Calculated  
 Maximum Waste Throughput: 1.60 (Tons/hr) Calculated  
 Maximum Waste Throughput: 13.976 (Tons/yr) Calculated  
 Unit Specific Info for Actual Calculations - 2016:  
 Waste Throughput: 10,359 (Tons/yr) Facility records, 2016 maximum waste throughput emissions inventory  
 Operating Hours: 8,175 (Hr/yr) Facility records, 2016 emissions inventory  
 Throughput: 1.27 (Tons/hr) Calculated  
 Airflow Data: 7,119 (DSCFM) 2016 Performance test average  
 'F' Factor: 337.070 (DSCF/Ton) Calculated  
 'F' Factor: 9.545 (DSCM/Ton) Calculated  
 Oxygen Data: 12.8% (O<sub>2</sub> %VW dry) 2016 Performance test average

Calculations Summary:

Pollutant Name	Uncontrolled Emissions Factors (lb/ton MSW)	ESP Controlled Emissions Factors (lb/ton MSW)	Uncontrolled Emissions Factor Source	Maximum Emissions (lbs/hr)	Maximum Uncontrolled Emissions (Tons/Yr)	Pollution Control Efficiency	Control Efficiency Source	Limited Controlled Emissions (Tons/Yr)	Basis for Limited and Controlled Emissions	Actual Emissions (2016) (Tons/Yr)
PM	4.19E+00	4.25E-01	AP-42, Table 2.1-9	1.10	29.3	0.0%	98% control efficiency based on Minn. R. 7011.0070, Electrostatic Precipitators; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	4.82	Calculated from PM limit and AP-42 Table 2.1-11 conversion factor	3.1
PM <sub>10</sub>	4.19E+00		AP-42, Table 2.1-9	1.10	29.3	0.0%	94% control efficiency based on Minn. R. 7011.0070, Electrostatic Precipitators; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	4.82	Set equal to limited PM	3.1
PM <sub>2.5</sub>	4.19E+00		AP-42, Table 2.1-9	1.10	29.3	0.0%	94% control efficiency assumed equal to PM10 control efficiency; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	4.82	Set equal to limited PM	3.1
SO <sub>2</sub>	3.95E+00		AP-42, Table 2.1-9	3.2	27.6	0.0%	assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit: <a href="https://www3.epa.gov/ttn/catdir/f1/fmpirpge.pdf">https://www3.epa.gov/ttn/catdir/f1/fmpirpge.pdf</a> , <a href="https://www3.epa.gov/ttn/catdir/f1/fmpirpge.pdf">https://www3.epa.gov/ttn/catdir/f1/fmpirpge.pdf</a> , Impingement-Plate/Tray-Tower Scrubber	14.1	Calculated from SO <sub>2</sub> limit and AP-42 Table 2.1-11 conversion factor	5.0
NO <sub>x</sub>	3.86E+00		AP-42, Table 2.1-9	15.1	27.0	0.0%	-	66.0	Calculated from NO <sub>x</sub> limit and AP-42 Table 2.1-11 conversion factor, 80 tpy limit on COMG 2	20.0
VOC	1.00E-01		AP-42, Air Emission Supplement C, Sept 1990; Table 2.1-1 "Emission Factors for Municipal Waste Combustors"	0.16	0.70	0.0%	95% VOC control efficiency based on EPA guidance; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit: <a href="https://www.epa.gov/sites/production/files/2019-10/documents/final_carbonadsorbentchapter_7bedition.pdf">https://www.epa.gov/sites/production/files/2019-10/documents/final_carbonadsorbentchapter_7bedition.pdf</a> , Carbon Adsorber	0.70	Calculated	0.518
CO	3.65E-01		AP-42, Table 2.1-9	0.92	2.6	0.0%	-	4.02	Calculated from CO limit and AP-42 Table 2.1-11 conversion factor	0.18
Lead	5.74E-02	3.45E-03	Calculated from controlled AP-42, Table 2.1-9 emission factor	0.025	0.40	0.0%	Assumed equal to PM control efficiency according to AP-42 emission factor ratio of controlled/uncontrolled; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	0.11	Calculated from Lead limit and AP-42 Table 2.1-11 conversion factor	0.065
CO <sub>2</sub>	4.52E+02		40 CFR pt. 98	722	3,162	0.0%	-	3,162	Calculated	2,344
CH <sub>4</sub>	1.60E-01		40 CFR pt. 98	0.25	1.12	0.0%	-	1.12	Calculated	0.83
N <sub>2</sub> O	2.10E-02		40 CFR pt. 98	0.03	0.15	0.0%	-	0.15	Calculated	0.11
CO <sub>2e</sub>			40 CFR pt. 98	738	3,233	0.0%	-	3,233	Calculated	2,397
HCl	2.63E+00		AP-42, Table 2.1-9	5.98	18.4	0.0%	Assumed 50% according to performance test results and permit limit; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	26.2	Calculated from HCl limit and AP-42 Table 2.1-11 conversion factor	10.8
Cadmium	2.95E-03	5.61E-04	AP-42, Table 2.1-9	1.57E-03	2.06E-02	0.0%	Assumed 81% according to AP-42 emission factor ratio of controlled/uncontrolled; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit	6.88E-03	Calculated from Cadmium limit and AP-42 Table 2.1-11 conversion factor	2.33E-03
Mercury	6.84E-03		AP-42, Table 2.1-9	9.43E-04	4.78E-02	0.0%	Assumed 95% according to EPA guidance; no control efficiency limits are assumed to calculate controlled or actual emissions, therefore no control efficiency is included in the permit: <a href="https://www.epa.gov/sites/production/files/2015-09/documents/volume6.pdf">https://www.epa.gov/sites/production/files/2015-09/documents/volume6.pdf</a>	4.13E-03	Calculated from Mercury limit and AP-42 Table 2.1-11 conversion factor	4.08E-04

- Fill out this form for each boiler, or attach sheets with equivalent information.
- If the boiler emits Hazardous Air Pollutants (HAPs), fill out and attach Form EC-13C.

AQ Facility ID No.: 11900051  
 Facility Name: Polk County Solid Waste Resource Recovery Facility  
 Emission Unit Identification Number: EQUI 22  
 Emission Unit Description: Auxiliary Boiler  
 Stack/Vent Designation Number: STRU 4  
 Control Equipment: None  
 Maximum Rated Burner Capacity: 30.00 (MMBTU/hr)  
 Primary Fuel Type: Natural Gas  
 Heat Value: 1,050 (BTU/cf)  
 Fuel Consumption Rate: 28,571 (CF/hr)  
 2018 Actual Annual Fuel Use: 36.06 (10<sup>6</sup> CF)

Calculations Summary - Natural Gas

Pollutant	Emission Factors AP-42 1.4 (lb/10 <sup>6</sup> scf)	Emission Rate (lbs/hr)	Maximum Uncontrolled Emissions (tons/yr)	Pollution Control Efficiency (%)	Limited Emissions (tons/yr)	Actual Emissions (tons/yr)
PM	7.6	0.22	0.98	0.00%	0.98	0.14
PM <sub>10</sub>	7.6	0.22	0.98	0.00%	0.98	0.14
PM <sub>2.5</sub>	7.6	0.22	0.98	100.00%	0.98	0.14
SO <sub>2</sub>	0.6	0.02	0.08	0.00%	0.08	0.01
NO <sub>x</sub>	100	2.94	12.9	0.00%	12.9	1.80
VOC	5.5	0.16	0.71	0.00%	0.71	0.10
CO	84	2.47	10.8	0.00%	10.8	1.51
Lead	0.0005	1.47E-05	6.44E-05	0.00%	6.44E-05	9.02E-06
*CO <sub>2</sub>	120019	3,530	15,461	0.00%	15,461	2,164
*CH <sub>4</sub>	2.26	0.07	0.29	0.00%	0.29	0.04
*N <sub>2</sub> O	0.23	0.01	0.03	0.00%	0.03	0.004
*CO <sub>2e</sub>		3,534	15,477	0.00%	15,477	2,166
Benzene	2.1E-03	6.18E-05	2.71E-04	0.00%	2.71E-04	3.79E-05
Dichlorobenzene	1.2E-03	3.53E-05	1.55E-04	0.00%	1.55E-04	2.16E-05
Formaldehyde	7.5E-02	2.21E-03	9.66E-03	0.00%	9.66E-03	1.35E-03
Hexane	1.8	0.05	0.23	0.00%	0.23	3.25E-02
Naphthalene	6.1E-04	1.79E-05	7.86E-05	0.00%	7.86E-05	1.10E-05
POM	8.8E-05	2.59E-06	1.14E-05	0.00%	1.14E-05	1.59E-06
Toluene	3.4E-03	1.00E-04	4.38E-04	0.00%	4.38E-04	6.13E-05
Total HAP		5.54E-02	2.42E-01	0.00%	2.42E-01	3.39E-02

\* Emission factors and global warming potentials from 40 CFR pt. 98

Operating Limitations, if applicable:  
 None



Alternate Format

GI-07 Spreadsheet
Facility Emissions Summary
Air Quality Permit Program
Doc Type: Permit Application



Alternate Format

GI-07 Spreadsheet
Facility Emissions Summary
Air Quality Permit Program
Doc Type: Permit Application

1a) AQ Facility ID No.: 11920051
2) Facility Name: Polk County Solid Waste Resource Recovery Facility

1b) Agency Interest ID No.: 40520

1a) AQ Facility ID No.: 11920051
2) Facility Name: Polk County Solid Waste Resource Recovery Facility

1b) Agency Interest ID No.: 40520

You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet and must be submitted on a CD with your application. If you need to provide emissions information for more emissions units, add more sets of columns (3a through 3f) to the right as needed in the Emissions by Source table. If you need to provide information for more pollutants, add rows as needed.

Emissions by Source Table

Emissions by Source Table

Emissions Summary Table

Table with multiple columns for pollutant name, CAS #, potential, and actual emissions across various sources and pollutants.

**Attachment 2 – Subject item inventory and facility requirements**

## List of SIs

Agency Interest: Polk County Solid Waste Facility

Agency Interest ID: 40520

Activity: IND20080001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	Subject Item Designation	Subject Item Description	
Polk County Solid Waste Facility	ACTV8	Null	All IAs	<input checked="" type="checkbox"/>
	AISI40520	Null	Null	<input checked="" type="checkbox"/>
	COMG2	GP001	Waste Combustors	<input checked="" type="checkbox"/>
	COMG4	Null	Continuous Monitors	<input checked="" type="checkbox"/>
	EQUI1	EU002	Incinerator 2	<input checked="" type="checkbox"/>
	EQUI5	CM004	Unit 1: CE Inlet temperature x degrees Fa..	<input checked="" type="checkbox"/>
	EQUI6	CM005	Unit 1: Steam Flow x lbs/hr, EQUI 19, 4-hr ave.	<input checked="" type="checkbox"/>
	EQUI7	CM006	Unit 2: CE Inlet temperature x degrees Fa..	<input checked="" type="checkbox"/>
	EQUI8	CM007	Unit 2: Steam Flow x lbs/hr, EQUI 1, 4-hr ave.	<input checked="" type="checkbox"/>
	EQUI19	EU001	Incinerator 1	<input checked="" type="checkbox"/>
	EQUI22	EU005	Auxiliary Boiler	<input checked="" type="checkbox"/>
	EQUI29	Null	Opacity Monitor	<input checked="" type="checkbox"/>
	EQUI30	Null	O2/CO Monitor	<input checked="" type="checkbox"/>
	EQUI31	Null	O2/CO Monitor	<input checked="" type="checkbox"/>
	EQUI32	Null	O2/CO Monitor	<input checked="" type="checkbox"/>
EQUI33	Null	O2/CO Monitor	<input checked="" type="checkbox"/>	

## List of SIs

Agency Interest: Polk County Solid Waste Facility

Agency Interest ID: 40520

Activity: IND20080001 (Part 70 Reissuance)

Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	Subject Item Designation	Subject Item Description	
Polk County Solid Waste Facility	EQUI34	Null	S02 Monitor	■
	EQUI35	Null	S02 Monitor	■
	EQUI36	Null	O2 Monitor	■
	EQUI37	Null	CO Monitor	■
	EQUI38	Null	O2 Monitor	■
	EQUI39	Null	CO Monitor	■
	EQUI40	Null	S02 Monitor	■
	EQUI41	Null	S02 Monitor	■
	EQUI42	Null	PLC 1	■
	EQUI43	Null	PLC 2	■
	STRU1	SV001	Primary Stack	■
	STRU2	SV002	Incinerator 1 Dump Stack	■
	STRU3	SV003	Incinerator 2 Dump Stack	■
	STRU4	SV004	Auxiliary Boiler Stack	■
	TFAC5	11900051	Polk County Solid Waste Resource Recovery	■
	TREA1	CE001	Electrostatic Precipitator - High Efficiency	■

## List of SIs

Agency Interest: Polk County Solid Waste Facility






Agency Interest ID: 40520

Activity: IND20080001 (Part 70 Reissuance)

### Details for:

SI Category: None

SI Type: All

Agency Interest Name	Subject Item ID	Subject Item Designation	Subject Item Description	
Polk County Solid Waste Facility	TREA2	CE002	Electrostatic Precipitator - High Efficiency	
	TREA3	CE003	Activated Carbon Adsorption	
	TREA4	CE004	Activated Carbon Adsorption	
	TREA5	CE005	Sodium Bicarbonate Scrubbing	
	TREA6	CE006	Sodium Bicarbonate Scrubbing	

Insignificant air emissions activity

Agency Interest: Polk County Solid Waste Facility





Agency Interest ID: 40520

Activity: IND20080001 (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	Subject Ite..	Subject Ite..	Status Desc..	Sub Attribute Description	
Polk County Solid Waste Facility	IND20080001	Activity	Insignificant Air Emissions Activity	ACTV8	Null	All IAs	Active/ Existing	Minn. R. 7007.1300, subp. 3(C)(2)	
								Minn. R. 7007.1300, subp. 3(E)	
								Minn. R. 7007.1300, subp. 3(F)	
								Minn. R. 7007.1300, subp. 3(G)	



## Component Group (Members)

Agency Interest: Polk County Solid Waste Facility

Agency Interest ID: 40520

Activity: None (Part 70 Reissuance)

### Details for:

SI Category: Component Group

SI Type: Air Component Group

Agency Interest Name	Subject Item ID	Subject Item Designation	Subject Item Description	Group Member ID (padded)	
Polk County Solid Waste Facility	COMG2	GP001	Waste Combustors	EQUI1	<input type="checkbox"/>
				EQUI19	<input type="checkbox"/>
Polk County Solid Waste Facility	COMG4	Null	Continuous Monitors	EQUI30	<input type="checkbox"/>
				EQUI31	<input type="checkbox"/>
				EQUI32	<input type="checkbox"/>
				EQUI33	<input type="checkbox"/>
				EQUI34	<input type="checkbox"/>
				EQUI35	<input type="checkbox"/>
				EQUI36	<input type="checkbox"/>
				EQUI37	<input type="checkbox"/>
				EQUI38	<input type="checkbox"/>
				EQUI39	<input type="checkbox"/>
				EQUI40	<input type="checkbox"/>
EQUI41	<input type="checkbox"/>				

PTE by subject item

Agency Interest: None

Agency Interest ID: 40520

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: All

Subject Item Category	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)					
Equipment	Boiler	EQUI22	EU005	Auxiliary Boiler	1,4-Dichlorobenzene (par..	3.53e-05	0.000155	0.000155					
					Benzene	6.18e-05	0.000271	0.000271					
					Carbon Dioxide Equivalent	3,534	15,477	15,477					
					Carbon Monoxide	2.47	10.82	10.82					
					Formaldehyde	0.00221	0.00966	0.00966					
					Hexane	0.0529	0.232	0.232					
					Lead	1.47e-05	6.44e-05	6.44e-05					
					Naphthalene	1.79e-05	7.86e-05	7.86e-05					
					Nitrogen Oxides	2.94	12.88	12.88					
					Particulate Matter	0.22	0.98	0.98					
					PM < 2.5 micron	0.22	0.98	0.98					
					PM < 10 micron	0.22	0.98	0.98					
					Polycyclic organic matter	2.59e-06	1.14e-05	1.14e-05					
					Sulfur Dioxide	0.02	0.08	0.08					
					Toluene	0.0001	0.000438	0.000438					
					Volatile Organic Compoun..	0.16	0.71	0.71					
					Equipment	Incinerator	EQUI1	EU002	Incinerator 2	Arsenic compounds	0.0013	0.00571	0.000897
										Cadmium compounds	0.00157	0.0206	0.00688
										Carbon Dioxide Equivalent	738	3,233	3,233
										Carbon Monoxide	0.92	2.55	4.02
Chromium compounds	0.00645	0.0283	0.00526										
HAPs - Total	6	18.51	26.23										
Hydrochloric acid	5.98	18.36	26.21										
Lead	0.025	0.4	0.11										
Mercury	0.000943	0.0478	0.00413										
Muni Waste Combust Org..	1.96e-06	2.51e-05	8.6e-06										
Nickel compounds	0.0108	0.0471	0.00863										
Nitrogen Oxides	15.1	26.99	66.04										
Particulate Matter	1.1	29.3	4.82										
PM < 2.5 micron	1.1	29.3	4.82										
PM < 10 micron	1.1	29.3	4.82										
Sulfur Dioxide	3.22	27.6	14.1										
Volatile Organic Compoun..	0.16	0.7	0.7										
Equipment	Incinerator	EQUI19	EU001	Incinerator 1						Arsenic compounds	0.0013	0.00571	0.000897
										Cadmium compounds	0.00157	0.0206	0.00688
										Carbon Dioxide Equivalent	738	3,233	3,233
					Carbon Monoxide	0.92	2.55	4.02					
					Chromium compounds	0.00645	0.0283	0.00526					
					HAPs - Total	6	18.51	26.23					
					Hydrochloric acid	5.98	18.36	26.21					
					Lead	0.025	0.4	0.11					
					Mercury	0.000943	0.0478	0.00413					
					Muni Waste Combust Org..	1.96e-06	2.51e-05	8.6e-06					
					Nickel compounds	0.0108	0.0471	0.00863					
					Nitrogen Oxides	15.1	26.99	66.04					
					Particulate Matter	1.1	29.3	4.82					
					PM < 2.5 micron	1.1	29.3	4.82					
					PM < 10 micron	1.1	29.3	4.82					
					Sulfur Dioxide	3.22	27.59	14.1					
					Volatile Organic Compoun..	0.16	0.7	0.7					

PTE by subject item

Agency Interest: None

Agency Interest ID: 40520

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: All

Subject Item Category Description	Subject Item Type Description	Subject Item ID	Subject Item Designation	Subject Item Description	Pollutant	Actual Emissions (tons/yr)
Equipment	Boiler	EQU122	EU005	Auxiliary Boiler	1,4-Dichlorobenzene (par..	
					Benzene	
					Carbon Dioxide Equivalent	
					Carbon Monoxide	
					Formaldehyde	
					Hexane	
					Lead	
					Naphthalene	
					Nitrogen Oxides	
					Particulate Matter	
					PM < 2.5 micron	
					PM < 10 micron	
					Polycyclic organic matter	
					Sulfur Dioxide	
					Toluene	
Volatile Organic Compoun..						
	Incinerator	EQU1	EU002	Incinerator 2	Arsenic compounds	
					Cadmium compounds	
					Carbon Dioxide Equivalent	
					Carbon Monoxide	
					Chromium compounds	
					HAPs - Total	
					Hydrochloric acid	
					Lead	
					Mercury	
					Muni Waste Combust Org..	
					Nickel compounds	
					Nitrogen Oxides	
					Particulate Matter	
					PM < 2.5 micron	
					PM < 10 micron	
Sulfur Dioxide						
Volatile Organic Compoun..						
		EQU19	EU001	Incinerator 1	Arsenic compounds	
					Cadmium compounds	
					Carbon Dioxide Equivalent	
					Carbon Monoxide	
					Chromium compounds	
					HAPs - Total	
					Hydrochloric acid	
					Lead	
					Mercury	
					Muni Waste Combust Org..	
					Nickel compounds	
					Nitrogen Oxides	
					Particulate Matter	
					PM < 2.5 micron	
					PM < 10 micron	
Sulfur Dioxide						
Volatile Organic Compoun..						

SI - SI relationships

Agency Interest: None  
 Agency Interest ID: 40520  
 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	Relationship	Related Subject Item ID	% Flow	Related Subject Item Type Description	Start Date (Related Subject Item)	End Date (Related Subject Item)						
Equipment	Boiler	EQUI22	EU005	Auxiliary Boiler	sends to	STRU4	100	Stack/Vent	1/18/1988	Null						
	Continuous Emission Monitor	EQUI30	Null	O2/CO Monitor	sends to	EQUI42	Null	Data Acquisition System	8/1/2004	Null						
		EQUI31	Null	O2/CO Monitor	sends to	EQUI42	Null	Data Acquisition System	8/1/2004	Null						
		EQUI32	Null	O2/CO Monitor	sends to	EQUI43	Null	Data Acquisition System	8/1/2004	Null						
		EQUI33	Null	O2/CO Monitor	sends to	EQUI43	Null	Data Acquisition System	8/1/2004	Null						
		EQUI34	Null	SO2 Monitor	sends to	EQUI42	Null	Data Acquisition System	8/1/2004	Null						
		EQUI35	Null	SO2 Monitor	sends to	EQUI43	Null	Data Acquisition System	8/1/2004	Null						
		EQUI36	Null	O2 Monitor	sends to	EQUI42	Null	Data Acquisition System	3/1/2011	Null						
		EQUI37	Null	CO Monitor	sends to	EQUI42	Null	Data Acquisition System	3/1/2011	Null						
		EQUI38	Null	O2 Monitor	sends to	EQUI43	Null	Data Acquisition System	3/1/2011	Null						
		EQUI39	Null	CO Monitor	sends to	EQUI43	Null	Data Acquisition System	3/1/2011	Null						
	Continuous Opacity Monitor	EQUI29	Null	Opacity Monitor	sends to	EQUI42	Null	Data Acquisition System	3/1/2008	Null						
						EQUI43	Null	Data Acquisition System	3/1/2008	Null						
	Incinerator	EQUI1	EU002	Incinerator 2	is controlled by	TREA2	100	010-Electrostatic Precipitator - High Effici..	3/1/1988	Null						
TREA4						100	048-Activated Carbon Adsorption	4/1/1997	Null							
TREA6						100	099-Other	8/1/2004	Null							
is monitored by		EQUI7	Null	Parametric Monitor	6/1/2002	Null	Parametric Monitor	4/1/1988	Null							
											EQUI29	Null	Continuous Opacity Monitor	3/1/2008	Null	
											EQUI32	Null	Continuous Emission Monitor	8/1/2004	Null	
											EQUI33	Null	Continuous Emission Monitor	8/1/2004	Null	
											EQUI35	Null	Continuous Emission Monitor	8/1/2004	Null	
											EQUI38	Null	Continuous Emission Monitor	3/1/2011	Null	
											EQUI39	Null	Continuous Emission Monitor	3/1/2011	Null	
sends to		STRU1	100	Stack/Vent	3/1/1988	Null	Stack/Vent	3/1/1988	Null							
											STRU3	100	Stack/Vent	3/1/1988	Null	

SI - SI relationships

Agency Interest: None  
 Agency Interest ID: 40520  
 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	Relationship	Related Subject Item ID	% Flow	Related Subject Item Type Description	Start Date (Related Subject Item)	End Date (Related Subject Item)			
Equipment	Incinerator	EQUI19	EU001	Incinerator 1	is controlled by	TREA1	100	010-Electrostatic Precipitator - High Effici..	3/1/1988	Null			
						TREA3	100	048-Activated Carbon Adsorption	4/1/1997	Null			
						TREA5	100	099-Other	8/1/2004	Null			
					is monitored by	EQUI5	Null	Parametric Monitor	6/1/2002	Null			
						EQUI6	Null	Parametric Monitor	4/1/1998	Null			
						EQUI29	Null	Continuous Opacity Monitor	3/1/2008	Null			
						EQUI30	Null	Continuous Emission Monitor	8/1/2004	Null			
						EQUI31	Null	Continuous Emission Monitor	8/1/2004	Null			
						EQUI34	Null	Continuous Emission Monitor	8/1/2004	Null			
						EQUI36	Null	Continuous Emission Monitor	3/1/2011	Null			
		sends to	EQUI37	Null	Continuous Emission Monitor	3/1/2011	Null						
			EQUI40	Null	Continuous Emission Monitor	3/1/2014	Null						
			STRU1	100	Stack/Vent	3/1/1988	Null						
				STRU2	100	Stack/Vent	3/1/1988	Null					
		Parametric Monitor	EQUI5	CM004	Unit 1: CE Inlet temperature x degrees Fa..	sends to	EQUI42	Null	Data Acquisition System	6/1/2002	Null		
				CM005	Unit 1: Steam Flow x lbs/hr, EQUI 19, 4-hr ave.	sends to	EQUI42	Null	Data Acquisition System	4/1/1998	Null		
				CM006	Unit 2: CE Inlet temperature x degrees Fa..	sends to	EQUI43	Null	Data Acquisition System	6/1/2002	Null		
				CM007	Unit 2: Steam Flow x lbs/hr, EQUI 1, 4-hr ave.	sends to	EQUI43	Null	Data Acquisition System	4/1/1998	Null		
		Treatment	099-Other	TREA5	CE005	Sodium Bicarbonate Scrubbing	is controlled in series by	TREA1	100	010-Electrostatic Precipitator - High Effici..	8/1/2004	Null	
								TREA3	100	048-Activated Carbon Adsorption	8/1/2004	Null	
TREA6	CE006			Sodium Bicarbonate Scrubbing	is controlled in series by	TREA2	100	010-Electrostatic Precipitator - High Effici..	8/1/2004	Null			
						TREA4	100	048-Activated Carbon Adsorption	8/1/2004	Null			

Emission Units 2

Agency Interest: None  
 Agency Interest ID: 40520  
 Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment  
 SI Type: Boiler & Incinerator

Subject Item Type Description	Subject Item ID	Subject Item Designation	Subject Item 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	
<b>Boiler</b>	EQUI22	EU005	Auxiliary Boiler	Cleaver Brooks	D42-RH	24000	pounds	hours	Steam	11/21/1987	1/18/1988	Null	
<b>Incinerator</b>	EQUI1	EU002	Incinerator 2	John Zink Co.	NA	38.3	tons	days	Refuse Derived Fuel	4/1/1987	3/1/1988	Null	
	EQUI19	EU001	Incinerator 1	John Zink Co.	NA	38.3	tons	days	Refuse Derived Fuel	4/1/1987	3/1/1988	Null	

Emission Units 2 (continued)

Agency Interest: None




Agency Interest ID: 40520

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: Boiler & Incinerator

Subject Item Type Description	Subject Item ID	Subject Item Designation	Subject Item Description	Firing Method	Engine Use	Engine Displacement	Engine Displacement Units	Subject to CSAPR?	Electric Generating Capacity (MW)	
Boiler	EQUI22	EU005	Auxiliary Boiler	Not coal burning	Null	Null	Null	N	Null	
Incinerator	EQUI1	EU002	Incinerator 2	Not coal burning	Null	Null	Null	N	Null	
	EQUI19	EU001	Incinerator 1	Not coal burning	Null	Null	Null	N	Null	

CEMs/COM, General

Agency Interest: None

Agency Interest ID: 40520

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: Continuous Emission Monitor & Continuous Opacity Monitor

Subject Item Type Description	Subject Item ID	Subject Item Designation	Subject Item Description	Manufacturer	Model	Serial Number	Parameter Monitored (CEMs/COMs)	Primary or Backup? (monitors)	Bypass Capability? (CEMs/COMs)	Install Date (CEMs/COMs)	Certification Date	Certification Basis	Span	System Full Scale Value	Optical Path Length	
Continuous Emission Monitor	EQUI30	Null	O2/CO Monitor	Servomex	04900C1	4085	Oxygen	B	Yes	8/1/2004	8/25/2004	40 CFR Pt 60	15	25	Null	
	EQUI31	Null	O2/CO Monitor	Servomex	04900C1	4085	Carbon Monoxide	B	Yes	8/1/2004	8/25/2004	40 CFR Pt 60	80	200	Null	
	EQUI32	Null	O2/CO Monitor	Servomex	04900C1	4085	Oxygen	B	Yes	8/1/2004	8/25/2004	40 CFR Pt 60	15	25	Null	
	EQUI33	Null	O2/CO Monitor	Servomex	04900C1	4085	Carbon Monoxide	B	Yes	8/1/2004	8/25/2004	40 CFR Pt 60	80	200	Null	
	EQUI34	Null	SO2 Monitor	Monitor Labs	9850A	4043-5006	Sulfur Dioxide	Primary	Yes	8/1/2004	8/25/2004	40 CFR Pt 60	115	200	Null	
	EQUI35	Null	SO2 Monitor	Monitor Labs	9850A	4043-5006	Sulfur Dioxide	Primary	Yes	8/1/2004	8/25/2004	40 CFR Pt 60	115	200	Null	
	EQUI36	Null	O2 Monitor	M&C TechGroup	PMA 100	1102329	Oxygen	Primary	Yes	3/1/2011	4/13/2011	40 CFR Pt 60	15	25	Null	
	EQUI37	Null	CO Monitor	Teledyne	T300	91	Carbon Monoxide	Primary	Yes	3/1/2011	4/13/2011	40 CFR Pt 60	80	200	Null	
	EQUI38	Null	O2 Monitor	M&C TechGroup	PMA 100	1102329	Oxygen	Primary	Yes	3/1/2011	4/13/2011	40 CFR Pt 60	15	25	Null	
	EQUI39	Null	CO Monitor	Teledyne	T300	91	Carbon Monoxide	Primary	Yes	3/1/2011	4/13/2011	40 CFR Pt 60	80	200	Null	
	EQUI40	Null	SO2 Monitor	Teledyne	TML-50	S02023	Sulfur Dioxide	B	Yes	3/1/2014	4/30/2014	40 CFR Pt 60	115	200	Null	
	EQUI41	Null	SO2 Monitor	Teledyne	TML-50	S02023	Sulfur Dioxide	B	Yes	3/1/2014	4/30/2014	40 CFR Pt 60	115	200	Null	
	Continuous Opacity Monitor	EQUI29	Null	Opacity Monitor	Durag	D-R 290AG	404318	Opacity	Primary	Yes	3/1/2008	3/18/2008	40 CFR Pt 60	Null	Null	0.5



Parametric Mon, General

Agency Interest: None





Agency Interest ID: 40520

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Equipment

SI Type: Parametric Monitor

Subject Item ID	Subject Item Designation	Subject Item Description	Manufacturer	Model	Serial Number	Parameter Monitored (Parametric)	Bypass Capability? (parametric)	Install Date (parametric)	
EQUI5	CM004	Unit 1: CE Inlet temperature x degrees Fa..	Pyromation or =	Type K or =	NA	Temperature	No	6/1/2002	
EQUI6	CM005	Unit 1: Steam Flow x lbs/hr, EQUI 19, 4-hr ave.	Honeywell or =	STM125-E1H	NA	Steam Flow	No	4/1/1998	
EQUI7	CM006	Unit 2: CE Inlet temperature x degrees Fa..	Pyromation or =	Type K or =	NA	Temperature	No	6/1/2002	
EQUI8	CM007	Unit 2: Steam Flow x lbs/hr, EQUI 1, 4-hr ave.	Honeywell or =	STM125-E1H or =	NA	Steam Flow	No	4/1/1998	

## Data Acquisition System, General

Agency Interest: None



Agency Interest ID: 40520

Activity: None (Part 70 Reissuance)

### Details for:

SI Category: Equipment

SI Type: Data Acquisition System

Subject Item ID	Subject Item Designation	Subject Item Description	Manufacturer	Model	Serial Number	Primary or Backup? (DASs)	Install Date (DASs)	
EQUI42	Null	PLC 1	Allen-Bradley	SLC500	Unknown	Primary	1/1/1998	
EQUI43	Null	PLC 2	Allen-Bradley	SLC500	Unknown	Primary	1/1/1998	

Stack/Vent, General

Agency Interest: None





Agency Interest ID: 40520

Activity: None (Part 70 Reissuance)

Details for:

SI Category: Structure

SI Type: Stack/Vent

Subject Item Type	Subject Item ID	Subject Item Designation	Subject Item 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	Primary Stack	170	3	Null	Null	23700	375	Manufacturer	Upwards with no cap on stack/vent	
	STRU2	SV002	Incinerator 1 Dump Stack	40	5	Null	Null	29500	1800	Manufacturer	Upwards with no cap on stack/vent	
	STRU3	SV003	Incinerator 2 Dump Stack	40	5	Null	Null	29500	1800	Manufacturer	Upwards with no cap on stack/vent	
	STRU4	SV004	Auxiliary Boiler Stack	40	3	Null	Null	8994	435	Estimate	Upwards with no cap on stack/vent	

Other Control Equipment

Agency Interest: None  
 Agency Interest ID: 40520  
 Activity: None (Part 70 Reissuance)

Details for:

















SI Category: Treatment  
 SI Type: 048-Activated Carbon Adsorption & 099-Other

Subject Item Type Description	Subject Item ID	Subject Item Designation	Subject Item Description	Manufacturer	Model	Installation Start Date	Pollutant Controlled	Capture Efficiency (%)	Destruction Collect Efficiency (%)	Subject to CAM?	Large or Other PSEU?	Efficiency Basis	Other operating parameters?	Other operating parameters description	
048-Activated Carbon Adsorption	TREA3	CE003	Activated Carbon Adsorption	Acrison Inc	105X-A	4/1/1997	Mercury	100	95	No	Null	Other	Yes	Activated carbon feed rate	<input type="checkbox"/>
							Muni Waste Combust Organics	100	93	No	Null	Test data	Yes	Activated carbon feed rate	<input type="checkbox"/>
							Volatile Organic Compounds	100	95	No	Null	Other	Yes	Activated carbon feed rate	<input type="checkbox"/>
	TREA4	CE004	Activated Carbon Adsorption	Acrison Inc	105X-A	4/1/1997	Mercury	100	95	No	Null	Other	Yes	Activated carbon feed rate	<input type="checkbox"/>
							Muni Waste Combust Organics	100	78	No	Null	Test data	Yes	Activated carbon feed rate	<input type="checkbox"/>
							Volatile Organic Compounds	100	95	No	Null	Other	Yes	Activated carbon feed rate	<input type="checkbox"/>
099-Other	TREA5	CE005	Sodium Bicarbonate Scrubbing	Hardy Process Solutions	HI4060-PM-..	8/1/2004	Hydrochloric acid	100	50	No	Null	Test data	Yes	Sodium bicarbonate feed r..	<input type="checkbox"/>
							Sulfur Dioxide	100	80	No	Null	Other	Yes	Sodium bicarbonate feed r..	<input type="checkbox"/>
	TREA6	CE006	Sodium Bicarbonate Scrubbing	AccuRate	602M	8/1/2004	Hydrochloric acid	100	50	No	Null	Test data	Yes	Sodium bicarbonate feed r..	<input type="checkbox"/>
							Sulfur Dioxide	100	80	No	Null	Other	Yes	Sodium bicarbonate feed r..	<input type="checkbox"/>

Electrostatic Precipitators, General

Agency Interest: None  
 Agency Interest ID: 40520  
 Activity: None (Part 70 Reissuance)

Details for:  
 SI Category: Treatment  
 SI Type: 010-Electrostatic Precipitator - High Efficiency

SI Designation and Description	Manufacturer	Model	Installation Start Date	Pollutant Controlled	Capture Efficiency (%)	Destruction Collect Efficiency (%)	Subject to CAM?	Large or Other PSEU?	Efficiency Basis	Using conditioning agent?	Conditioning Agent Flow Rate (gal/hr)	Minimum Fields Online	Total Power (kW)	Secondary Current (mA)	Voltage (kV)	
010-Electrostatic Precipitator - High Efficiency, TREA1, CE001 Electrostatic Precipitator - High Efficiency	PPC Industries	S35A02..	6/29/1987	Arsenic compounds	100	84	No	Null	Other	No	Null	2	Null	275	60	
				Cadmium compounds	100	81	No	Null	Other	No	Null	2	Null	275	60	
				Chromium compounds	100	81	No	Null	Other	No	Null	2	Null	275	60	
				Lead	100	98	No	Null	Other	No	Null	2	Null	275	60	
				Nickel compounds	100	82	No	Null	Other	No	Null	2	Null	275	60	
				Particulate Matter	100	98	No	Null	Control Equipment Rule	No	Null	2	Null	275	60	
				PM < 2.5 micron	100	94	No	Null	Other	No	Null	2	Null	275	60	
				PM < 10 micron	100	94	No	Null	Control Equipment Rule	No	Null	2	Null	275	60	
010-Electrostatic Precipitator - High Efficiency, TREA2, CE002 Electrostatic Precipitator - High Efficiency	PPC Industries	S35A02..	6/29/1987	Arsenic compounds	100	84	No	Null	Other	No	Null	2	Null	275	60	
				Cadmium compounds	100	81	No	Null	Other	No	Null	2	Null	275	60	
				Chromium compounds	100	81	No	Null	Other	No	Null	2	Null	275	60	
				Lead	100	98	No	Null	Other	No	Null	2	Null	275	60	
				Nickel compounds	100	82	No	Null	Other	No	Null	2	Null	275	60	
				Particulate Matter	100	98	No	Null	Control Equipment Rule	No	Null	2	Null	275	60	
				PM < 2.5 micron	100	94	No	Null	Other	No	Null	2	Null	275	60	
				PM < 10 micron	100	94	No	Null	Control Equipment Rule	No	Null	2	Null	275	60	

SI Id	Sequence	Requirement
TFAC 5	28	<p>Ash Testing Report: The Permittee must submit an annual ash testing report to the Commissioner by March 15 of each year. The report must include the following information:</p> <p>A. Results of annual analyses of ash as required by Minn. R. 7035.2910. Total composition results must be reported on a dry weight basis.</p> <p>B. Discussion of the data, including identification of trends observed by comparing the most recent year's results with those of previous years. In particular, the Permittee must assess whether the waste combustor is in compliance with the goals of Minnesota Statutes, section 115A.97, subdivision 1, clause (1).</p> <p>C. Data quality assurance assessment, including the following:  (1) precision and accuracy of each method used;  (2) representativeness of the samples;  (3) potential effect of any field or laboratory contamination on the sampling results; and  (4) qualification or rejection of data based on the results of quality control samples.</p>
		<p>D. Information summarizing operation of the waste combustor(s) (EQUIs 1 and 19) during the ash sampling periods, and data regarding ash sample processing recorded according Minn. R. 7035.2910, subp. 9. Operating information must include an estimate of the quantity and type of wastes other than mixed municipal solid waste which were combusted at the facility during the ash sampling period. If leachate was added to the waste during the sampling period, the quantity of leachate added and source of the leachate must be noted.</p> <p>E. Certification by the Permittee that samples analyzed to fulfill the requirements of Minn. R. 7035.2910 were collected according to the plan required by Minn. R. 7035.2910, subp. 6, and that no actions were taken during the sample collection period to intentionally affect the results of ash sample analysis so that the results would not be representative of ash typically generated by the waste combustor(s). Such actions may include, for example, altering the type of waste combusted during the sampling period.</p> <p>F. Identification of any changes in test methods or parameters made in accordance with Minn. R. 7035.2910, subp. 4, items D and E.</p> <p>This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7000.7000, variance (10/18/1996), Minn. R. 7035.2910, subp. 10]</p>
TFAC 5	37	<p>The Permittee must submit an updated mercury waste separation plan to the Commissioner: Due annually, by the 30th of January starting March 25, 2004. The Permittee must implement the mercury waste separation plan to identify, separate, and collect solid wastes which contain mercury before the mercury is combusted. The updated plan must identify improvements that have been made to the plan to increase identification, separation, and collection before combustion of mercury from the solid waste stream. If no changes are being made, the Permittee must state that no changes are being made for that year.</p> <p>The plan must include operating conditions that ensure that the facility will continue to emit mercury emissions less than 50 percent of the applicable standard.</p> <p>This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7007.0801, subp. 2(F), Minn. R. 7007.0801, subp. 2(G), Minn. R. 7011.1255, subp. 1, Minn. R. 7011.1255, subp. 3]</p>

SI Id	Sequence	Requirement
TFAC 5	39	<p>The Permittee must perform ash sampling according to the ash sampling plan approved by the Commissioner. Proposed changes to sampling equipment or procedures must be submitted to the Commissioner for review and approval. The plan must contain at least the following information:</p> <p>A. specification of the training and experience qualifications of persons who collect ash samples;</p> <p>B. description of equipment used to collect, process, and store ash samples;</p> <p>C. identification of sampling equipment cleaning procedures and other actions taken to prevent sample contamination;</p> <p>D. identification of the location or locations where ash samples are collected;</p> <p>E. description of procedures used to collect grab samples;</p> <p>F. description of procedures used to process grab samples to form composite samples;</p> <p>G. description of chain-of-custody and sample storage procedures; and</p> <p>H. identification of ash sampling quality assurance and quality control measures.</p> <p>This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7007.0801, subp. 2(D), Minn. R. 7035.2910, subp. 6]</p>
TFAC 5	41	<p>The Permittee must comply with the industrial solid wastes management plan approved by the Commissioner. The Permittee must modify the industrial waste management plan whenever the management practices or solid wastes identified in the plan have changed. The Permittee must submit the amended plan to the Commissioner for approval.</p> <p>This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7011.1250, subp. 1, Minn. R. 7011.1250, subp. 3]</p>
TFAC 5	42	<p>The Permittee must design, construct, and operate the facility in compliance with the solid waste management requirements as set forth in Minn. R. 7011.1245, items A through H. Plans required in Minn. R. 7011.1245 shall identify the required portions of the plan which are not applicable.</p> <p>A. security requirements in Minn. R. 7035.2535, subp. 3;</p> <p>B. general inspection requirements in Minn. R. 7035.2535, subp. 4;</p> <p>C. household hazardous waste management requirements of Minn. R. 7035.2535, subp. 6;</p> <p>D. emergency preparedness and prevention plans and emergency procedures shall be prepared in accordance with Minn. R. 7035.2595 and 7035.2605;</p> <p>E. contingency action plans in Minn. R. 7035.2615;</p> <p>F. closure plans in Minn. R. 7035.2625 and closure procedures in Minn. R. 7035.2635;</p> <p>G. solid waste transfer facility requirements as required in Minn. R. 7035.2870; and</p> <p>H. for waste combustors accepting infectious wastes, infectious waste management requirements of Minn. R. 7035.9100 to 7035.9150.</p> <p>This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7007.0800, subp. 2, Minn. R. 7011.1245]</p>
TFAC 5	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 Appendix A. Insignificant activities and general applicable requirements, Appendix B. 40 CFR pt. 63, subp. DDDDD requirements, Appendix C. 40 CFR pt. 63, subp. A requirements, Appendix D. Fugitive Emission Control Plan, Appendix E. 1996 MSW Combustor Ash Testing Variance, Appendix F. 1997 MSW Combustor Rule Variance, Appendix G. Waste Composition Study, and Appendix H. Industrial Solid Waste Management Plan. [Minn. R. 7007.0800, subp. 2]</p>
TFAC 5	1245	<p>The Permittee must comply with Minn. Stat. 116.385. The Permittee may not use trichloroethylene at its permitted facility after June 1, 2022, including in any manufacturing, processing, or cleaning processes, except as described in Minn. Stat. 116.385, subd. 2(b) and 4. [Minn. Stat. 116.385]</p>

SI Id	Sequence	Requirement
TFAC 5	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. [Minn. R. 7007.1800(A)(2)]</p>
TFAC 5	1280	<p>Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and recordkeeping specified in the fugitive dust control plan in Appendix D of this permit. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors as requested by the Commissioner. [Minn. R. 7007.0100, Minn. R. 7007.0800, subp. 2, Minn. R. 7009.0020, Minn. R. 7011.0150, Minn. Stat. 116.07, subd. 4a]</p>
TFAC 5	1300	<p>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. 7007.0800, subp. 2(A) &amp; (B), Minn. R. 7009.0020-7009.0090, Minn. Stat. 116.07, subd. 4a(a)]</p>
TFAC 5	1380	<p>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]</p>
TFAC 5	1390	<p>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(A) &amp; (B)]</p>
TFAC 5	1400	<p>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 &amp; 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)]</p>
TFAC 5	1410	<p>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]</p>
TFAC 5	1420	<p>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]</p>
TFAC 5	1430	<p>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]</p>
TFAC 5	1440	<p>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)]</p>
TFAC 5	1450	<p>The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16. [Minn. R. 7007.0800, subp. 16]</p>
TFAC 5	1460	<p>Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in this permit. [Minn. R. ch. 7017]</p>



SI Id	Sequence	Requirement
TFAC 5	1470	<p>Performance Test Notifications and Submittals:</p> <p>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</p> <p>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]</p>
TFAC 5	1480	<p>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]</p>
TFAC 5	1490	<p>Monitoring Equipment Calibration - The Permittee shall either:</p> <ol style="list-style-type: none"> <li>1. Calibrate or replace required monitoring equipment every 12 months; or</li> <li>2. Calibrate at the frequency stated in the manufacturer's specifications.</li> </ol> <p>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)]</p>
TFAC 5	1500	<p>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)]</p>
TFAC 5	1510	<p>Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, for 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)]</p>
TFAC 5	1520	<p>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)]</p>
TFAC 5	1530	<p>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]</p>
TFAC 5	1610	<p>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.</p> <p>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]</p>

SI Id	Sequence	Requirement
TFAC 5	1620	<p>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.</p> <p>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]</p>
TFAC 5	1630	<p>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]</p>
TFAC 5	1640	<p>Notification of Deviations Endangering Human Health or the Environment Report: Within two 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:</p> <ol style="list-style-type: none"> <li>1. the cause of the deviation;</li> <li>2. the exact dates of the period of the deviation, if the deviation has been corrected;</li> <li>3. whether or not the deviation has been corrected;</li> <li>4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and</li> <li>5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation. [Minn. R. 7019.1000, subp. 1]</li> </ol>
TFAC 5	1650	<p>The Permittee must submit a semiannual deviations report : Due semiannually, by the 30th of January and July. The first semiannual report submitted by the Permittee must 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(B)(2)]</p>
TFAC 5	1670	<p>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.</p> <p>Upon adoption of a new or amended federal applicable requirement, and if there are three 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]</p>
TFAC 5	1680	<p>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)]</p>
TFAC 5	1700	<p>The Permittee must 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(D)]</p>
TFAC 5	1703	<p>Within 15 days of a request from the Commissioner, the Permittee must provide a complete summary of all performance tests required at the facility including the subject item, pollutant, most recent test date (if applicable), and the date of the next test in an approved format. [Minn. R. 7007.0800, subp. 16(L)]</p>

SI Id	Sequence	Requirement
TFAC 5	1720	The Permittee shall submit an application for permit reissuance : Due 180 calendar days before Permit Expiration Date. [Minn. R. 7007.0400, subp. 2]
TFAC 5	1730	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 5	1740	Emission Fees: due 30 days after receipt of an MPCA bill. [Minn. R. 7002.0005-7002.0085]
COMG 2	31	The Permittee must limit emissions of Nitrogen Oxides <= 80 tons per year 12-month rolling sum to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]
COMG 2	32	Nitrogen Oxides: Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain a record of the total quantity of waste combusted at the facility. This shall be based on written or electronic combustion logs. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000]
COMG 2	35	Nitrogen Oxides: (NOX) Monthly Recordkeeping. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total amount in tons of waste combusted for the previous calendar month using the daily records; 2) The NOX emissions for the previous month using the formulas specified in this permit; and 3) The 12-month rolling sum NOX emissions for the previous 12-month period by summing the monthly NOX emissions data for the previous 12 months. [Minn. R. 7007.0800, subps. 4-5]
COMG 2	54	Nitrogen Oxides: (NOX) Monthly Calculations. The Permittee shall calculate NOX emissions using the following equations: $\text{NOX (tons/month)} = N = \text{EF} \times (\text{W1} + \text{W2}) / 2000$ where: N = total NOX emitted in tons/month; EF = AP-42 NOX emission factor, 3.86 lb/ton; W1 = the amount of waste combusted in EQUI 19, in tons/month; W2 = the amount of waste combusted in EQUI 1, in tons/month; and 2000 = pounds to tons conversion. [Minn. R. 7007.0800, subps. 4-5]
COMG 2	55	The Permittee must submit an annual report by the 31st of January. The report shall document the NOX 12-month rolling sum calculations for the previous calendar year. The report shall be submitted with the annual Compliance Certification required by this permit. As part of the Annual Report, the Permittee shall verify and certify that the Facility has maintained minor source status for New Source Review. [Minn. R. 7007.0800, subp. 2(A)]
COMG 2	59	A chief facility operator or shift supervisor who holds a certificate as described in Minn. R. 7011.1281, subp. 1 must be present at the waste combustor facility at all times when solid waste is being combusted, except if individuals are assuming the duties of chief facility operator or shift supervisor, the individuals must obtain full certification as described in Minn. R. 7011.1281 within six months of assuming such duties. [40 CFR 62.15135, 40 CFR 62.15140, Minn. R. 7011.1240, subp. 1, Minn. R. 7011.1240, subp. 1a]
COMG 2	60	During start-up from a cold furnace, the Permittee must use auxiliary fuels to achieve combustion chamber operating temperature. The use of solid waste solely to provide thermal protection of the grate or hearth during the start-up period when solid waste is not being fed to the grate is not considered to be continuous burning. [Minn. R. 7011.1240, subp. 3]
COMG 2	61	The Permittee may burn yard waste, tires, and household hazardous waste that are incidentally received and are co-mingled with municipal solid waste. The Permittee must not combust yard waste, tires, or household hazardous waste in any waste combustor as a separate waste stream. [Minn. R. 7011.1220, subp. 2]

SI Id	Sequence	Requirement
COMG 2	62	<p>The following types of employees must complete the EPA or state-approved operator training course:</p> <p>(1) Chief facility operators.</p> <p>(2) Shift supervisors.</p> <p>(3) Control room operators.</p> <p>These employees must complete the operator training course by the date before an employee assumes responsibilities that affect operation of EQUI 19 and/or EQUI 1. [40 CFR 62.15105]</p>
COMG 2	63	<p>Each chief facility operator and shift supervisor must obtain and maintain a current provisional operator certification from the American Society of Mechanical Engineers QRO-1-1994 or state-approved program under 40 CFR pt. 62, subp. JJ. [40 CFR 62.15130(a), Minn. R. 7011.1280, subp. 1(A)]</p>
COMG 2	64	<p>The Permittee must establish a program to review the plant-specific operating manual with waste combustor facility personnel who have responsibilities which affect the operation of EQUI 19 and/or EQUI 1, including, but not limited to, chief facility operators, shift supervisors, operator supervisors, control room personnel, ash handlers, maintenance personnel, and crane/load handlers. The waste combustor facility personnel must complete a program of instruction and on-the-job training based on the plant-specific operating manual. The Permittee must train facility personnel to maintain compliance with Minn. R. 7011.1201 to 7011.1294. Individual training must be specific to the position held and shall, at a minimum, address the items in Minn. R. 7011.1275, subp. 3.</p> <p>The training program must require:</p> <p>A. initial review of the operating manual prior to assumption of any job-related activities affecting air emissions;</p> <p>B. review of the operating manual relevant to a newly assigned position before assumption of new job-related activities affecting air emissions;</p> <p>C. that those without waste combustor or boiler operation experience, initially review the operating manual and work under the direct supervision of a certified operator or a certified operator's designee before assumption of job-related activities affecting air emissions for 40 hours;</p> <p>D. annual review of the operating manual; and</p> <p>E. the Permittee must update the manual annually. [40 CFR 62.15115(b) and (c), 40 CFR 62.15115(d), Minn. R. 7011.1275, subp. 1 and 2]</p>
COMG 2	65	<p>Training Program: Persons without waste combustor or boiler operation experience must work under the direct supervision of a certified operator or a certified operator's designee for 40 hours before assuming job-related activities affecting air emissions. [Minn. R. 7011.1275, subp. 1(C)(1)]</p>

SI Id	Sequence	Requirement
COMG 2	113	<p>The Permittee must develop and update on a yearly basis a site specific operating manual that must, at a minimum, address the following elements of EQUI 19 and EQUI 1 operation:</p> <ul style="list-style-type: none"> <li>A. a summary of the applicable state rules and federal regulations to the activities described in the facility's air emissions permit;</li> <li>B. a description of basic combustion theory applicable to the facility's waste combustor unit;</li> <li>C. procedures for receiving, handling, and feeding solid waste;</li> <li>D. EQUI 19 and EQUI 1 start-up, shutdown, and malfunction procedures;</li> <li>E. procedures for maintaining proper combustion air levels;</li> <li>F. procedures for operating the waste combustors, EQUIs 19 and 1, within the standards established in Minn. R. 7011.1201 to 7011.1294;</li> <li>G. procedures for responding to periodic upset or off-specification conditions;</li> <li>H. procedures for minimizing particulate matter carryover;</li> </ul>
		<ul style="list-style-type: none"> <li>I. procedures for monitoring the degree of solid waste burnout;</li> <li>J. procedures for handling ash;</li> <li>K. procedures for monitoring waste combustor emissions;</li> <li>L. procedures for reporting and record keeping;</li> <li>M. timetables and procedures for routine inspection and maintenance of equipment affecting air emissions;</li> <li>N. procedures for activating communications and alarm systems; and</li> <li>O. procedures to implement the facility's industrial waste management plan.</li> </ul> <p>The Permittee must also include any operational changes resulting from emissions performance testing results in the operating manual.</p> <p>The Permittee must keep the operating manual in a location easily accessed by chief facility operators, shift supervisors, operator supervisors, control room personnel, ash handlers, maintenance personnel, and crane/load handlers. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7011.1275, subp. 3]</p>

SI Id	Sequence	Requirement
COMG 2	114	<p>All employees with responsibilities that affect how a municipal waste combustion unit operates must complete the plant-specific training course. Include at least six types of employees:</p> <ul style="list-style-type: none"> <li>(a) Chief facility operators.</li> <li>(b) Shift supervisors.</li> <li>(c) Control room operators.</li> <li>(d) Ash handlers.</li> <li>(e) Maintenance personnel.</li> <li>(f) Crane or load handlers. [40 CFR 62.15110]</li> </ul>
COMG 2	121	<p>The Permittee must maintain as a part of the operating record required by Minn. R. 7011.1285, subp. 2, a record of the identity of all personnel who have received training and the number of training hours. The Permittee must provide records to the Commissioner on demand. [Minn. R. 7011.1275, subp. 4]</p>
COMG 2	132	<p>The Permittee must keep records of the following:</p> <ul style="list-style-type: none"> <li>a) Records of provisional certifications. Include three items: <ul style="list-style-type: none"> <li>1) Names of the chief facility operator, shift supervisors, and control room operators who are provisionally certified by the American Society of Mechanical Engineers.</li> <li>2) Dates of the initial provisional certifications.</li> <li>3) Documentation showing current provisional certifications.</li> </ul> </li> <li>b) Records of full certifications. Include three items: <ul style="list-style-type: none"> <li>1) Names of the chief facility operator, shift supervisors, and control room operators who are fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program.</li> <li>2) Dates of initial and renewal full certifications.</li> <li>3) Documentation showing current full certifications.</li> </ul> </li> <li>c) Records showing completion of the operator training course. Include three items: <ul style="list-style-type: none"> <li>1) Names of the chief facility operator, shift supervisors, and control room operators who have completed the EPA or State municipal waste combustion operator training course.</li> <li>2) Dates of completion of the operator training course.</li> <li>3) Documentation showing completion of operator training course.</li> </ul> </li> <li>d) Records of reviews for plant-specific operating manuals. Include three items: <ul style="list-style-type: none"> <li>1) Names of persons who have reviewed the operating manual.</li> <li>2) Date of the initial review.</li> <li>3) Dates of subsequent annual reviews. [40 CFR 62.15295(a)-(d), Minn. R. 7011.1280, subp. 11, Minn. R. 7011.1284, subp. 3a, Minn. R. 7011.1285, subp. 2(l)]</li> </ul> </li> </ul>

SI Id	Sequence	Requirement
COMG 2	134	<p>To be eligible as a fully certified operator, an individual must maintain a provisional certificate from ASME or a certificate described in Minn. R. 7011.1280, and pass an examination administered by the Permittee's certified municipal waste combustor examiner. The examination shall test comprehensive understanding of the content and procedures described in the waste combustor's operating manual that is required to be prepared for the facility by Minn. R. 7011.1275, subp. 3. If changes are made in equipment and/or operating procedures which the initial certification did not address, certificate holders shall demonstrate to the facility's certified examiner detailed knowledge of these changes within six months after the change is made. If the demonstration of knowledge has not been made within six months, the certificate shall expire.</p> <p>The Permittee shall maintain a record of the names of all personnel that the examiner has certified at the facility for five years. This record shall contain the examination dates, the nature or content of the examination, the full name of the individual certified, the date of certification, and the signature of the certified examiner for the facility with the following certification: "I certify under penalty of law that, based on my examination of these persons, these persons have demonstrated the knowledge and skills that qualify these persons to be fully certified operators at Polk County Solid Waste Resource Recovery in accordance with the procedures of Minnesota Rules, parts 7011.1280 to 7011.1284". [Minn. R. 7011.1284]</p>
COMG 2	135	<p>The Permittee must maintain and keep all records on site and all required submittals in paper copies or electronic format for at least five years. The Permittee must make all records available for submittal to the Administrator or Commissioner, or for onsite review by an inspector, Administrator, or Commissioner. [40 CFR 62.15290, Minn. R. 7011.1285, subp. 1]</p>
COMG 2	136	<p>The Permittee shall maintain on site for five years after the report is generated, a paper copy of each quarterly report, initial compliance report, and performance test report required under Minn. R. 7011.1285, subparts 3, 5, and 6 respectively. [40 CFR 62.15300(a), Minn. R. 7011.1285, subp. 1]</p>
COMG 2	137	<p>Recordkeeping: The Permittee must maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [Minn. R. 7007.0800, subp. 2]</p>
COMG 2	139	<p>Quarterly reports: The report must contain the following items:</p> <ul style="list-style-type: none"> <li>A. calendar date;</li> <li>B. sulfur dioxide, nitrogen oxide, and carbon monoxide emissions, the maximum load level for each waste combustor unit, and particulate matter control device temperatures as recorded by Minn. R. 7011.1260, subp. 6(C) and the daily maximum opacity reading as recorded by Minn. R. 7011.1260, subp. 6(B)(1). The Permittee may choose to provide this information in tabular or graphic form. The graphs shall be prepared as follows: <ul style="list-style-type: none"> <li>(1) the graph shall represent one operating parameter or pollutant;</li> <li>(2) the applicable limit of the parameter or pollutant shall be indicated on the graph; and</li> <li>(3) data shall be expressed in the same units as the applicable operating parameter or emissions limit;</li> </ul> </li> <li>C. instances of dumpstack use;</li> <li>D. the identification of operating days when any of the average emission concentrations, percent reductions, operating parameters specified under Minn. R. 7011.1260, subp. 6(C) or Minn. R. 7011.1272, subp. 2, or the opacity level exceeded the applicable limits. The report shall include the emission levels recorded during the exceedance, reasons for such exceedances as well as a description of corrective actions taken;</li> </ul>

SI Id	Sequence	Requirement
		<p>E. the percent of the operating time for the quarter that the opacity CEMS was operating and collecting valid data;</p> <p>F. the identification of operating days for which the minimum number of hours that emission concentrations, percent reductions, operating parameters specified under Minn. R. 7011.1260, subp. 6(C) or Minn. R. 7011.1272, subp. 2, or the opacity level have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;</p> <p>G. the results of daily sulfur dioxide, nitrogen oxides, and carbon monoxide CEMS drift tests and accuracy assessments as required in Minn. R. 7011.1260, subp. 5;</p> <p>H. the information required in Minn. R. 7011.1285, subp. 2(C), (D), and (E), summarized to reflect quarterly totals;</p> <p>I. a compliance certification as required in Minn. R. 7007.0800, subp. 6(C); and</p> <p>J. if an additive is used to comply with mercury or PCDD/PCDF emission limits, the total additive used during the calendar quarter, as specified in Minn. R. 7011.1272, subp. 3(B), with supporting calculations. [Minn. R. 7011.1285, subp. 3]</p>
COMG 2	140	<p>The Permittee must submit annual reports, plus semiannual reports for any emission or parameter level that does not meet the limits specified in 40 CFR pt. 62, subp. JJJ.</p> <p>The Permittee must submit all reports on paper, postmarked on or before the submittal dates in 40 CFR Sections 62.15325, 62.15335, and 62.15350. If the Administrator agrees, the Permittee may submit electronic reports.</p> <p>The Permittee must keep a copy of all reports required by 40 CFR Sections 62.15330, 62.15340, and 62.15355 onsite for 5 years. [40 CFR 62.15315]</p>
COMG 2	141	<p>Annual Report. The Permittee must include the following in the annual report:</p> <ul style="list-style-type: none"> <li>- The results of annual stack tests, using appropriate units, for dioxins/furans, cadmium, lead, mercury, opacity, particulate matter, hydrogen chloride, and fugitive ash.</li> <li>- A list of the highest average emission levels recorded, in the appropriate units for sulfur dioxide emissions, carbon monoxide emissions, load levels of the municipal waste combustion units, EQUIs 19 and 1, and temperatures of the flue gases at the inlet of the particulate matter air pollution control devices (TREAs 1 and 2) (4-hour block average).</li> <li>- The highest 6-minute opacity level measured. Base this value on all 6-minute average opacity levels recorded by the continuous opacity monitoring system (40 CFR Section 62.15305(a)(1)).</li> <li>-The average carbon feed rates recorded during the most recent dioxins/furans and mercury stack tests.</li> <li>-The lowest 8-hour block average carbon feed rates recorded during the year.</li> <li>-The total carbon purchased and delivered to the facility for each calendar quarter. If the Permittee chooses to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at the facility.</li> </ul>



SI Id	Sequence	Requirement
		<ul style="list-style-type: none"> <li>-The required quarterly carbon usage of the facility calculated using the appropriate equation in 40 CFR Section 62.15390(f). If the Permittee chooses to evaluate required quarterly usage for carbon on a municipal waste combustion unit basis, record the required quarterly usage for each municipal waste combustion unit at the facility.</li> <li>- The total number of days that the minimum number of hours of data were not obtained for sulfur dioxide emissions, carbon monoxide emissions, load levels of the municipal waste combustion units, temperatures of the flue gases at the inlet of the particulate matter air pollution control devices, and carbon feed rates. Include the reasons the data was not obtained and corrective actions that were taken to obtain the data in the future.</li> <li>- The number of hours data was excluded from the calculation of average levels (include the reasons for excluding it) for sulfur dioxide emissions, carbon monoxide emissions, load levels of the municipal waste combustion units, temperatures of the flue gases at the inlet of the particulate matter air pollution control devices, and carbon feed rates.</li> <li>- A notice of intent to begin a reduced stack testing schedule for dioxins/furans emissions during the following calendar year if the Permittee is eligible for alternative scheduling (40 CFR Section 62.15250(a) or (b)).</li> <li>- A notice of intent to begin a reduced stack testing schedule for other pollutants during the following calendar year if the Permittee is eligible for alternative scheduling (40 CFR Section 62.15250(a)).</li> <li>- A summary of any emission or parameter level that did not meet the limits specified in this permit.</li> <li>- A summary of the data in 40 CFR 62.15340(a) through (d) from the year preceding the reporting year.</li> <li>- If the Permittee chooses to monitor carbon dioxide instead of oxygen as a diluent gas, documentation of the relationship between oxygen and carbon dioxide, as specified in 40 CFR Section 62.15200.</li> <li>- Documentation of periods when all certified chief facility operators and certified shift supervisors are offsite for more than 12 hours. [40 CFR 62.15340]</li> </ul>
COMG 2	142	The Permittee must submit a semiannual report on any recorded emission or parameter level that does not meet the requirements specified in 40 CFR Section 62.15345. [40 CFR 62.15345]
COMG 2	143	<p>Semiannual report. The Permittee must include the following in the semiannual out-of-compliance report:</p> <ul style="list-style-type: none"> <li>- For the concentration or percent reduction of sulfur dioxide emissions, concentration of carbon monoxide emissions, load levels of the municipal waste combustion units, EQUIs 19 and 1, temperatures of the flue gas at the inlet of the particulate matter air pollution control devices, and average 6-minute opacity level that exceeded the limits specified in 40 CFR pt. 62, subp. JJJ, include the calendar date the pollutant or parameter exceeded the limits, the averaged and recorded data for that date, the reasons for exceeding the limits, and corrective actions.</li> <li>- If the results of the annual performance tests (as recorded in 40 CFR Section 62.15300(a)) show emissions above the applicable limits specified in this permit for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash, include a copy of the test report that documents the emission levels and corrective actions.</li> <li>- Documentation of all dates when the 8-hour block average carbon feed rates (calculated from the carbon injection system operating parameters) are less than the highest carbon feed rate established during the most recent mercury and dioxins/furans stack tests (as specified in 40 CFR Section 62.15310(a)(1)) and include four items: <ul style="list-style-type: none"> <li>- Eight-hour average carbon feed rate(s).</li> </ul> </li> </ul>

SI Id	Sequence	Requirement
		<ul style="list-style-type: none"> <li>- Reasons for occurrences of low carbon feed rate(s).</li> <li>- The corrective actions taken to meet the carbon feed rate requirement.</li> <li>- The calendar date.</li> </ul> <p>-Documentation of each quarter when total carbon purchased and delivered to the facility is less than the total required quarterly usage of carbon. If the Permittee chooses to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit the facility and include five items:</p> <ul style="list-style-type: none"> <li>- Amount of carbon purchased and delivered to the plant.</li> <li>- Required quarterly usage of carbon.</li> <li>- Reasons for not meeting the required quarterly usage of carbon.</li> <li>- The corrective actions taken to meet the required quarterly usage of carbon.</li> <li>- The calendar date. [40 CFR 62.15355]</li> </ul>
COMG 2	144	The 40 CFR pt. 60, subp. A general provisions and 40 CFR pt. 60 appendices apply to 40 CFR pt. 62, except as follows: 40 CFR 60.7(a)(3), 60.7(a)(3), and 60.8(a) and where special provisions set forth under 40 CFR pt. 62, subp. JJJ apply instead of any conflicting provisions. [40 CFR 62.02(b)(2)]
COMG 2	145	Recordkeeping: Maintain a file of all measurements, maintenance, reports and records for at least five years including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. [40 CFR 60.7(f), Minn. R. 7019.0100, subp. 1, Minn. R. 7007.0800, subp. 5(C)]
COMG 2	153	At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 60.11(d)]
COMG 2	154	The Permittee must install and operate all continuous monitoring systems and monitoring devices prior to conducting performance tests under 40 CFR Section 60.8. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)]
COMG 2	155	<p>The Permittee must operate and record data from CEMS or COMS during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction. This requirement to operate the monitor applies whether or not a numerical emission limit applies during these periods. The Permittee must not bypass CEMS or COMS except in emergencies where failure to bypass the CEMS or COMS would endanger human health, safety, or plant equipment.</p> <p>Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR Section 60.13(d), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:</p> <p>(1) All continuous monitoring systems referenced by 40 CFR Section 60.13(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.</p> <p>(2) All continuous monitoring systems referenced by 40 CFR Section 60.13(c) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. [40 CFR 60.13(e), Minn. R. 7017.1090, subp. 1]</p>
COMG 2	156	The Permittee must install all continuous monitoring systems or monitoring devices such that representative measurements of emissions or process parameters from the affected facility are obtained. The Permittee must use additional procedures for the location of continuous monitoring systems contained in the applicable Performance Specifications of 40 CFR pt. 60, appendix B. [40 CFR 60.13(f)]

SI Id	Sequence	Requirement
		Records of average carbon feed rate for mercury and dioxins/furans (PCDD/PCDF) control. The Permittee must record and maintain the following:  -Total carbon purchased and delivered to the municipal waste combustion plant for each calendar quarter, and the weight of additive delivered to the plant. If the Permittee chooses to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at the facility. Include supporting documentation.  - Required quarterly usage of carbon for the facility, calculated using the appropriate equation in 40 CFR Section 62.15390(f). If the Permittee chooses to evaluate required quarterly usage for carbon on a municipal waste combustion unit basis, record the required quarterly usage for each municipal waste combustion unit at the facility. Include supporting calculations. [40 CFR 62.15310(a), Minn. R. 7011.1272, subp. 3]
COMG 2	157	
COMG 2	158	Quarterly Report: due 30 days after end of each calendar quarter following permit issuance [Minn. R. 7011.1285, subp. 3]
COMG 2	159	Waste Composition Study: due before the end of each calendar 60 months starting 03/30/2004. The Permittee must submit the waste composition study 45 days after completion of the study.  This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7011.1270, subp. B(4)]
COMG 4	41	The Permittee must calibrate, maintain, and operate continuous emission monitoring systems for oxygen (or carbon dioxide), sulfur dioxide, and carbon monoxide. The continuous emission monitoring systems for sulfur dioxide, nitrogen oxides, and oxygen (or carbon dioxide) must be located at the outlet of the air pollution control device. [40 CFR 62.15175(a)]
COMG 4	45	The Permittee must install, evaluate, and operate each continuous emission monitoring system according to the "Monitoring Requirements" in 40 CFR Section 60.13. [40 CFR 62.15175(b)]
COMG 4	46	The Permittee must monitor the oxygen (or carbon dioxide) concentration at each location where sulfur dioxide and carbon monoxide are monitored. [40 CFR 62.15175(c)]
COMG 4	48	If the Permittee chooses to demonstrate compliance by monitoring the percent reduction of sulfur dioxide, the Permittee must also install a continuous emission monitoring system for sulfur dioxide and oxygen (or carbon dioxide) at the inlet of the air pollution control device. [40 CFR 62.15175(e)]
COMG 4	53	Where continuous emission monitoring systems are required, the Permittee must obtain 1-hour arithmetic averages. The Permittee must obtain the averages for sulfur dioxide and carbon monoxide in parts per million by dry volume at 7 percent oxygen (or the equivalent carbon dioxide level). Use the 1-hour averages of oxygen (or carbon dioxide) data from the continuous emission monitoring system to determine the actual oxygen (or carbon dioxide) level and to calculate emissions at 7 percent oxygen (or the equivalent carbon dioxide level). [40 CFR 62.15205(a), Minn. R. 7011.1260, subp. 4]
COMG 4	95	The Permittee must obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average. 40 CFR Section 60.13(e)(2) requires continuous emission monitoring systems to complete at least one cycle of operation (sampling, analyzing, and data recording) for each 15-minute period. [40 CFR 62.15205(b), Minn. R. 7011.1260, subp. 4]
COMG 4	96	The Permittee must obtain valid 1-hour averages for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter. An operating day is any day EQUI 1 combusts any municipal solid waste or refuse-derived fuel. [40 CFR 62.15205(c)]
COMG 4	99	If the Permittee does not obtain the minimum data required in 40 CFR Section 62.15205(a) through (c), the Permittee is in violation of 40 CFR Section 62.15205(d) regardless of the emission level monitored, and the Permittee must notify the Administrator according to 40 CFR Section 62.15340(e). [40 CFR 62.15205(d)]
COMG 4	100	If the Permittee does not obtain the minimum data required in 40 CFR Section 62.15205(a) through (c), the Permittee must still use all valid data from the continuous emission monitoring systems in calculating emission concentrations and percent reductions in accordance with 40 CFR Section 62.15210. [40 CFR 62.15205(e), 40 CFR 62.15225]

SI Id	Sequence	Requirement
COMG 4	2230	The CEMS requirements listed below outline the typical standards of 40 CFR pt. 60 when combined with Minn. R. Additional monitoring requirements may also apply to the Facility based on this combination of standards and it is the responsibility of the Facility to meet all applicable requirements. [Minn. R. 7007.0800, subp. 4]
COMG 4	2260	Certification Test Plan due 30 days before Certification Test. Certification Test Pretest Meeting due 7 days before Certification Test. Certification Test Report due 45 days after Certification Test.  The Test Plan and Test Report must be submitted in a format specified by the Commissioner. [40 CFR 60.7(a)(5), Minn. R. 7017.1060, subp. 1-3, Minn. R. 7017.1080]
COMG 4	2270	Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. [40 CFR 60.13(e), Minn. R. 7017.1010, subp. 1(A), Minn. R. 7017.1090]
COMG 4	2280	QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan must be on site and available for inspection within 30 days after monitor certification. The plan must contain all of the information required by 40 CFR Part 60, Appendix F, Section 3. The plan must include the manufacturer's spare parts list for each CEMS and require that those parts be kept at the facility unless the Commissioner gives written approval to exclude specific spare parts from the list. [40 CFR pt. 60, Appendix F, 3, Minn. R. 7017.1010, subp. 1(C), Minn. R. 7017.1170, subp. 2]
COMG 4	2290	CEMS QA/QC: The Permittee is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. [40 CFR 60.13(a), 40 CFR pt. 60, Appendix F, Minn. R. 7017.1010, subp. 1(A)]
COMG 4	2300	CEMS Daily Calibration Drift Test: Check the zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily. The zero and span must, at a minimum, be adjusted whenever the drift exceeds two times the limit specified in 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, Section 4.3.1 must be used to determine out-of-control periods for CEMS. [40 CFR 60.13(d)(1), 40 CFR pt. 60, Appendix F, 4.1, Minn. R. 7017.1010, subp. 1(A), Minn. R. 7017.1170, subp. 3]
COMG 4	2310	Recordkeeping: The Permittee shall retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [40 CFR 60.7(f), Minn. R. 7017.1130, Minn. R. 7019.0100, subp. 1]
COMG 4	2320	CEMS Monitor Design: Each CEMS shall be designed to complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period. [40 CFR 60.13(e)(2), Minn. R. 7017.1010, subp. 1(A)]
COMG 4	2360	CEMS Certification/Recertification Test: due 90 days after the first excess emissions report required for the CEMS or any change which invalidates the monitor's certification status as outlined in Minn. R. 7017.1050, subp. 2. [40 CFR 60.13(b), Minn. R. 7017.1010, subp. 1(A)]
COMG 4	3340	The Permittee shall submit excess emission/downtime report : Due by 30 days after the end of each calendar quarter following permit issuance. Submit this on form DRF-1 (Excess Emissions Reporting) as amended. The EER shall indicate all periods of monitor bypass and exceedances of the limit including those allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions, as well as a summary of audit results and frequencies. If no excess emissions, downtime or bypasses occurred during the quarter, submit a signed report supplying the necessary monitor data needed to verify this. [Minn. R. 7017.1110, subp. 1-2]

SI Id	Sequence	Requirement
EQUI 1	1	<p>Steam Flow &lt;= 14,624.5 pounds per hour 4-hour block average, (as determined during the April 23-26, 2019 PCDD/PCDF performance test). Notwithstanding the previous sentence, upon the Commissioner's written notification that the emission unit has demonstrated compliance under the conditions of a PCDD/PCDF performance test and prior to incorporation of the steam flow rate into this permit, the Permittee must not exceed 110 percent of the maximum demonstrated load established during that compliant performance test.</p> <p>Maximum demonstrated load of a municipal waste combustion unit means the highest 4-hour block arithmetic average municipal waste combustion unit load achieved during 4 consecutive hours in the course of the most recent dioxins/furans stack test that demonstrates compliance with the applicable emission limit for dioxins/furans specified in this permit.</p> <p>The waste combustor is exempt from limits on load level during any of three situations:  (1) Annual tests for dioxins/furans.  (2) The 2 weeks preceding annual tests for dioxins/furans.</p>
		<p>(3) Whenever approved in writing by the Administrator and Commissioner for any of following activities:  (i) Evaluate system performance.  (ii) Test new technology or control technologies.  (iii) Perform diagnostic testing.  (iv) Perform other activities to improve the performance of the waste combustor.  (v) Perform other activities to advance the state of the art for emission controls for the waste combustor.</p> <p>The Permittee shall provide written notification submitted to the Commissioner and Administrator 30 days prior to undertaking any of the activities described above in 3(i) - (v), with the following information:  1) a description of the proposed project, and the outcome the project is designed to evaluate;  2) how the project conforms with the activities described above for which the waste combustor load level limit can be waived;  3) the length of time the project will take to complete. [40 CFR 62.15145(a), 40 CFR 62.15145(e), Minn. R. 7011.1240, subp. 5, Minn. R. 7017.2025, subp. 3]</p>
EQUI 1	6	<p>The Permittee must limit emissions of Muni Waste Combust Organics &lt;= 125 nanograms per dscm using a 3-run average (minimum run duration is 4 hours) and determine compliance by stack test measured at 7 percent oxygen. Muni Waste Combust Organics (dioxins/furans) means tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]</p>
EQUI 1	8	<p>The Permittee must limit emissions of Muni Waste Combust Organics &lt;= 500 nanograms per dscm. Muni Waste Combust Organics means total of tetra-through octa-polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans. This limit is applied in accordance with the "Applicability of Standards" stated in this permit. [Minn. R. 7011.1227]</p>
EQUI 1	9	<p>The Permittee must limit emissions of Cadmium &lt;= 0.10 milligrams per dscm using a 3-run average (run duration specified in test method) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]</p>
EQUI 1	10	<p>The Permittee must limit emissions of Lead &lt;= 1.6 milligrams per dscm using a 3-run average (run duration specified in test method) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]</p>
EQUI 1	11	<p>The Permittee must limit emissions of Mercury &lt;= 0.080 milligrams per dscm (or 85 percent reduction of potential mercury emissions) using a 3-run average (run duration specified in test method) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]</p>

SI Id	Sequence	Requirement
EQUI 1	12	The Permittee must limit emissions of Mercury $\leq$ 100 micrograms per dscm, or 85% removal (short term), whichever is less stringent. This limit is applied in accordance with the "Applicability of Standards" stated in this permit. [Minn. R. 7011.1227]
EQUI 1	13	The Permittee must limit emissions of Mercury $\leq$ 60 micrograms per dscm, or 85% removal (long term), whichever is less stringent. This limit is applied in accordance with the "Applicability of Standards" stated in this permit. [Minn. R. 7011.1227]
EQUI 1	14	The Permittee must limit Opacity $\leq$ 10 percent opacity using thirty 6-minute averages and determine compliance by stack test. This limit is applied in accordance with 40 CFR Section 62.15165.  The Permittee may use COMS data in lieu of Method 9 to determine compliance with opacity limits as approved by the EPA on March 8, 2006. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 1	15	The Permittee must limit Opacity $\leq$ 10 percent opacity. [Minn. R. 7011.1227]
EQUI 1	16	The Permittee must limit emissions of Particulate Matter $\leq$ 70 milligrams per dscm using a 3-run average (run duration specified in test method) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 1	17	The Permittee must limit emissions of Particulate Matter $\leq$ 0.04 grains per dry standard cubic foot This limit is applied in accordance with the "Applicability of Standards" stated in this permit. [Minn. R. 7000.7000, variance (12/22/1997), Minn. R. 7011.1227]
EQUI 1	18	The Permittee must limit emissions of Hydrogen Chloride $\leq$ 250 parts per million by volume (or 50 percent reduction of potential hydrogen chloride emissions) using a 3-run average (minimum run duration is 1 hour) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 1	19	The Permittee must limit emissions of Nitrogen Oxides $\leq$ 500 parts per million by dry volume. No monitoring, testing, record keeping, or reporting is required to demonstrate compliance. Five hundred parts per million is equal to 12.4 lb NOx per hour for each unit. The potential-to-emit for each of these units is 6.2 lb per hour. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 1	20	The Permittee must limit emissions of Sulfur Dioxide $\leq$ 77 parts per million (or 50 percent reduction of potential sulfur dioxides emissions) using a 24-hour daily block geometric average concentration (or percent reduction) and determine compliance by continuous emission monitoring system measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 1	21	The Permittee must limit Visible Emissions $\leq$ 5 percent of fugitive combustion ash from an ash conveying system, or buildings or enclosures of ash conveying systems, including conveyor transfer points, for an hourly observation period using three 1-hour observation periods (i.e. 9 minutes per three-hour period), as determined by 40 CFR pt. 60, Appendix A, Method 22, as amended. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4, Minn. R. 7011.1225, subp. 1(B)]
EQUI 1	22	The Permittee must limit emissions of Carbon Monoxide $\leq$ 50 parts per million 4-hour block average by dry volume using a 4-hour block average, arithmetic mean and determine compliance by continuous emission monitoring systems measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(3), 40 CFR pt. 62, subp. JJJ, Table 5]
EQUI 1	23	The Permittee must limit emissions of Carbon Monoxide $\leq$ 50 parts per million. [Minn. R. 7011.1227]
EQUI 1	26	The emission limits of 40 CFR pt. 62, subp. JJJ apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction. Each startup, shutdown, or malfunction must not last for longer than 3 hours.  A maximum of 3 hours of test data can be dismissed from compliance calculations during periods of startup, shutdown, or malfunction.  During startup, shutdown, or malfunction periods longer than 3 hours, emissions data cannot be discarded from compliance calculations and all provisions under 40 CFR Section 60.11(d) apply. [40 CFR 62.15165]

SI Id	Sequence	Requirement
EQUI 1	27	<p>Applicability of Standards. The standards of Minn. R. 7011.1227, Minn. R. 7011.1228, Minn. R. 7011.1229, Minn. R. 7011.1230, Minn. R. 7011.1233, Minn. R. 7011.1240, subp. 2, and Minn. R. 7011.1272, subp. 2, apply at all times when waste is being continuously burned, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction does not exceed three hours. Fugitive emissions standards applicable to ash conveying systems do not apply during maintenance and repair of ash conveying systems. "Malfunction" means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown are not considered malfunctions.</p> <p>The start-up period commences when the waste combustor begins the continuous burning of solid waste and does not include any warm-up period when the waste combustor is combusting fossil fuel or other solid fuel.</p> <p>Continuous burning is the continuous, semicontinuous, or batch feeding of solid waste for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of solid waste solely to provide thermal protection of the grate or hearth during the start-up period when municipal solid waste is not being fed to the grate is not considered to be continuous burning. [Minn. R. 7011.1215, subp. 4]</p>
EQUI 1	28	The Permittee shall vent emissions from EQUI 1 to control equipment meeting the requirements of TREAs 2, 4, and 6 whenever EQUI 1 operates. [Minn. R. 7007.0800, subp. 2(A)]
EQUI 1	29	The Permittee must not cause gases to be emitted into the atmosphere from EQUI 1 in excess of the applicable standards of performance shown in Minn. R. 7011.1227. Emissions, except opacity, shall be calculated under standard conditions corrected to seven percent oxygen on a dry volume basis. The Permittee may determine compliance with the emission limitations using carbon dioxide measurements corrected to an equivalent of seven percent oxygen. [Minn. R. 7011.1225, subp. 1(A)]
EQUI 1	30	The Permittee must use data from the continuous emission monitoring systems for sulfur dioxide and carbon monoxide to demonstrate continuous compliance with the applicable emission limits specified in 40 CFR pt. 62, subp. JJJ, Tables 4 and 5. [40 CFR 62.15180]
EQUI 1	33	<p>When the Permittee does not obtain continuous emissions data for sulfur dioxide removal efficiency, sulfur dioxide or nitrogen oxide emission rates, or carbon monoxide because of monitor breakdowns, repairs, calibration checks, and zero and span adjustments, emission data calculations to determine compliance must be made using the following methods:</p> <p>1) for sulfur dioxide removal efficiency or sulfur dioxide or nitrogen oxide emission concentrations, 40 CFR pt. 60, Appendix A, Method 19, as amended, to provide valid emission data in order to meet the requirements of Minn. R. 7011.1260, subp. 5(B). Other monitoring systems or other data collection methods may be used as approved by the Commissioner; and</p> <p>2) for carbon monoxide, 40 CFR pt. 60, Appendix A, Method 10, as amended, to provide valid emission data in order to meet the requirements of Minn. R. 7011.1260, subp. 5(B). Other monitoring systems or other data collection methods may be used as approved by the Commissioner. [Minn. R. 7011.1260, subp. 5(D)]</p>
EQUI 1	34	<p>The Permittee must use results of stack tests for muni waste combust organics (dioxins/furans), cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash to demonstrate compliance with the applicable emission limits in 40 CFR pt. 62, subp. JJJ, Table 4.</p> <p>The Permittee may use COMS data in lieu of Method 9 to determine compliance with opacity limits as approved by the EPA on March 8, 2006. [40 CFR 62.15235]</p>
EQUI 1	36	Fuel Type: Natural gas and mixed municipal solid waste processed onsite in the materials recovery facility. [Minn. R. 7007.0800, subp. 2(A)]

SI Id	Sequence	Requirement
EQUI 1	68	The Permittee must use natural gas to warm the combustion and pollution control devices, and to maintain good combustion conditions in the combustion chamber from the time the waste feed has been discontinued until the combustion chamber is clear of combustible material or active combustion ceases. [Minn. R. 7007.0800, subp. 2]
EQUI 1	70	<p>The Permittee must not use the waste combustor dumpstack (STRU 3) for conducting routine inspection or maintenance on the control equipment or the combustion system without prior approval of the Commissioner.</p> <p>The Permittee must only use STRU 3 when plant or worker safety would be in jeopardy without its use.</p> <p>The Permittee must record in the daily operating record required in Minn. R. 7011.1285, subp. 2, the date of use of STRU 3, the length of time STRU 3 was used, the operating conditions of EQUI 1 during STRU 3 use, and the reason for using STRU 3. [Minn. R. 7011.1240, subp. 7]</p>
EQUI 1	71	<p>The Permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system when burning solid waste. The Permittee must install monitoring systems that continuously read and record the following outputs:</p> <ol style="list-style-type: none"> <li>1) for carbon monoxide at the outlet of EQUI 1;</li> <li>2) for steam flow or an alternative unit load measurement parameter as described in Minn. R. 7011.1265, subp. 4a, in waste combustors which recover heat with a boiler;</li> <li>3) for flue gas opacity, at a location after which the flue gas has exited the air pollution control equipment; and</li> <li>4) for oxygen or carbon dioxide at each location where carbon monoxide, sulfur dioxide, or nitrogen oxides emissions are monitored, to report corrected concentrations of regulated pollutants;</li> <li>5) for nitrogen oxides; and</li> <li>6) for sulfur dioxide. If the Permittee chooses to determine compliance by monitoring the percent reduction of sulfur dioxide emissions, monitors shall be installed at the inlets and outlets of the air pollution control system.</li> </ol> <p>[40 CFR 62.15215(a), Minn. R. 7011.1260, subp. 3]</p>
EQUI 1	72	<p>The Permittee must also monitor three operating parameters:</p> <ol style="list-style-type: none"> <li>(a) Load level of EQUI 1.</li> <li>(b) Temperature of flue gases at the inlet of TREA 2.</li> <li>(c) Carbon feed rate. [40 CFR 62.15260]</li> </ol>
EQUI 1	73	The Permittee must install, calibrate, maintain, and operate a device to continuously measure the temperature of the flue gas stream at the inlet of each particulate matter control device (TREA 2). [40 CFR 62.15270, Minn. R. 7011.1260, subp. 2]
EQUI 1	74	The Permittee must report to the Commissioner the operating conditions during performance testing including operating parameters of TREA 2, flue gas temperatures, air flow rates, and pressure drop across the combustion system. [Minn. R. 7011.1265, subp. 6]
EQUI 1	101	The Permittee must determine the maximum demonstrated capacity of EQUI 1 during each subsequent performance test during which compliance with the PCDD/PCDF emission limit in Minn. R. 7011.1225 and 40 CFR Section 62.15160 is achieved. [Minn. R. 7011.1265, subp. 7]
EQUI 1	102	The Permittee must determine and record the four-hour arithmetic average gas stream temperature as measured at the inlet to TREA 2 during each subsequent performance test for PCDD/PCDFs demonstrating compliance with the PCDD/PCDF emission limit in Minn. R. 7011.1225 and 40 CFR 62.15160. [Minn. R. 7011.1265, subp. 8]



SI Id	Sequence	Requirement
EQUI 1	107	<p>The Permittee must obtain 1-hour arithmetic averages for three parameters:</p> <ul style="list-style-type: none"> <li>(1) Load level of EQUI 1.</li> <li>(2) Temperature of the flue gases at the inlet of TREA 2.</li> <li>(3) Carbon feed rate for activated carbon used to control dioxins/furans or mercury emissions (TREA 4).</li> </ul> <p>The Permittee must obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average.</p> <p>The Permittee must obtain valid 1-hour averages for at least 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.</p> <p>If the Permittee does not obtain the minimum data required in 40 CFR Section 62.15280, the Permittee is in violation of this data collection requirement and the Permittee must notify the Administrator according to 40 CFR Section 62.15340(e). [40 CFR 62.15280, Minn. R. 7011.1260, subp. 5(B)]</p>
EQUI 1	110	<p>Exceedances of emission limits. If accurate and valid data results of a performance test demonstrate an exceedance of a standard of performance as described in Minn. R. 7011.1225 or this permit after normal start-up, the Permittee must undertake the following actions:</p> <ul style="list-style-type: none"> <li>- The Permittee must immediately report the exceedance to the Commissioner and must comply with the applicable reporting provisions if Minn. R. 7007.0800, subp. 6.</li> <li>- The Permittee must undertake appropriate steps to return EQUI 1 to compliance and must demonstrate compliance within 60 days of the initial report of the exceedance.</li> <li>- If the Commissioner determines that compliance has not been achieved within 60 days of the initial report of exceedance, the Permittee must shut down EQUI 1.</li> <li>- If shutdown is required under Minn. R. 7011.1265, subp. 11(C), EQUI 1 may be restarted under the conditions specified by the Commissioner. The Permittee must notify the Commissioner in writing of the date on which the Permittee plans to start-up and to begin compliance testing. The Permittee must submit a notification at least ten days in advance of the compliance test date.</li> </ul> <p>This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act. [Minn. R. 7011.1265, subp. 11, Minn. Stat. 116.85, subd. 3]</p>

SI Id	Sequence	Requirement
EQUI 1	111	<p>Exceedances of continuously monitored emission limits. If accurate and valid data results collected from continuous monitors for sulfur dioxide, nitrogen oxides, or carbon monoxide data exceed emission limits established in Minn. R. 7011.1225 or in this permit after normal start-up, the Permittee must undertake the following actions:</p> <p>A. The Permittee must report the exceedance(s) to the Commissioner as soon as reasonably possible giving consideration to matters of plant or worker safety, or access to communications.</p> <p>B. The Permittee must commence appropriate repairs or modifications to return EQUI 1 to compliance within 72 hours of the exceedance.</p> <p>C. If EQUI 1 cannot be returned to compliance within 72 hours of the occurrence of the exceedance, the Permittee must shut down EQUI 1. If the modifications to return EQUI 1 to compliance require an amendment of this permit, the Permittee must shut down EQUI 1 within 72 hours of the exceedance.</p> <p>D. When repairs or modifications have been completed, the Permittee must demonstrate to the Commissioner that EQUI 1 is in compliance. The Permittee may start up EQUI 1 after the Permittee has notified the Commissioner in writing of the date the Permittee plans to start up EQUI 1 and the date that compliance testing is scheduled. The Permittee must submit notification at least ten days in advance of the compliance test date. [Minn. R. 7011.1260, subp. 7]</p>
EQUI 1	112	<p>The Permittee must maintain a record of the information listed below. The Permittee must maintain a permanent record of continuously measured parameters. The record of monitoring shall contain:</p> <p>a) the calendar date;</p> <p>b) the following measurements recorded in a manner that allows the data to be immediately accessed upon inspection by the Commissioner:</p> <ol style="list-style-type: none"> <li>1) all six-minute opacity readings;</li> <li>2) all one-hour average sulfur dioxide emission concentrations at the inlet and outlet of the acid gas control device if compliance is based on a percent reduction, or at the outlet only if compliance is based on the outlet emission limit; and</li> <li>3) all one-hour average carbon monoxide and nitrogen oxide emission concentrations, steam flow, or alternative unit load measurement parameter as described in Minn. R.7011.1265, subpart 4a, combustion chamber temperature, and flue gas temperatures at the inlet of the particulate matter control device;</li> </ol> <p>c) the following average concentrations and parameters:</p> <ol style="list-style-type: none"> <li>1) all 24-hour daily geometric average percent reductions in sulfur dioxide emissions or all 24-hour daily geometric average sulfur dioxide emission concentrations, as applicable;</li> <li>2) all 24-hour daily arithmetic average nitrogen oxides emission concentrations;</li> <li>3) all four-hour block or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable; and</li> <li>4) all four-hour block arithmetic average unit load levels, and particulate matter control device inlet temperatures. [40 CFR 62.15305(a) and (b), Minn. R. 7011.1260, subp. 6]</li> </ol>

SI Id	Sequence	Requirement
EQUI 1	119	<p>Daily Operating Record. The Permittee must maintain a daily record of the operation of EQUI 1. The record must contain:</p> <ul style="list-style-type: none"> <li>- the calendar date;</li> <li>- the hours of operation;</li> <li>- the weight of waste combusted;</li> <li>- the weight of waste requiring disposal at a solid waste land disposal facility, including separated noncombustibles, excess waste, and ash;</li> <li>- the amount and description of industrial solid waste received each day, the generator's name, and the method of handling;</li> <li>- the measurements and determination of emissions averages as required in Minn. R. 7011.1260, subpart 6;</li> <li>- results of performance tests conducted on waste combustor units as required in this permit;</li> <li>- instances of dumpstack use;</li> <li>- the names of persons who have completed initial review or subsequent annual review of the operating manual;</li> <li>- calendar dates whenever any of the pollutants or parameter levels recorded in 40 CFR Section 62.15305(b) or the opacity level recorded in 40 CFR Section 62.15305(a)(1) did not meet the emission limits or operating levels specified in 40 CFR pt. 62, subp. JJJ.</li> <li>- the reasons for exceeding any of the applicable emission limits, percent reductions, or operating levels and parameters specified in this permit, or six-minute average COMS measurements that exceed the opacity limit, and a description of the corrective actions the Permittee took, or is taking, to meet the emission limits or operating levels.</li> <li>- reasons for not obtaining the minimum number of hours or collecting the minimum amount of data required under 40 CFR Sections 62.15205 and 62.15280 for sulfur dioxide or operational data for opacity, carbon monoxide, steam flow, load levels of the municipal waste combustion unit, and temperatures of the flue gases at the inlet of the particulate matter control device, and a description of corrective actions the Permittee took, or is taking, to meet the emission limits or operating levels.</li> </ul>
		<ul style="list-style-type: none"> <li>- the date of the calibration of all signal conversion elements associated with steam flow monitoring as required in Minn. R. 7011.1265, subp. 4.</li> <li>- if the required hourly average additive system operating parameter is not maintained, the reasons for not maintaining the additive system operating parameter as determined in Minn. R. 7011.1272, subp. 2 and the corrective actions taken.</li> <li>- if the required hourly average additive mass feed rate is not maintained, the reasons for not maintaining the additive mass feed rates as determined in Minn. R. 7011.1272, subp. 1 and the corrective actions taken.</li> <li>- the time when waste begins feeding and the unit load of the steam turbine at the time;</li> <li>- the time the waste feed to the combustion chamber ceases;</li> <li>- the time when PM control equipment by-pass begins;</li> <li>- the time when PM control bypass ceases;</li> <li>- mercury additive feed rate:</li> <li>- a record of the activated carbon feeder auger rotation rate for every shift</li> <li>- a record that operators periodically visually observed the carbon being fed into the flue gas during their shift.</li> <li>- a record of the daily calibration of the auger rotation speed and if any adjustments are necessary.</li> <li>- a record of the average additive mass feed rate for each hour of operation. [40 CFR 62.15305(c) and (d), Minn. R. 7007.0800, subp. 2, A, Minn. R. 7011.1285]</li> </ul>

SI Id	Sequence	Requirement
EQUI 1	146	<p>Records of exclusions. The Permittee must document each time data is excluded from the calculation of averages for any of the following pollutants or parameters and the reasons the data were excluded:</p> <ol style="list-style-type: none"> <li>1) Sulfur dioxide emissions.</li> <li>2) Carbon monoxide emissions.</li> <li>3) Load levels of EQUI 1.</li> <li>4) Temperatures of the flue gases at the inlet of the particulate matter control device (TREA 2). [40 CFR 62.15305(e)]</li> </ol>
EQUI 1	147	<p>Opacity : The Permittee must conduct performance test : Due annually to measure opacity. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>For state regulated pollutants, if three annual performance tests for a three-year period show compliance with opacity limits, the Permittee may continue to conduct annual testing, or may choose to conduct performance tests every 2.5 years. At a minimum, a performance test must be conducted every 2.5 years, but no more than 30 months following the previous compliance test. If a performance test indicates noncompliance with applicable standards, the Permittee must resume annual testing for three years for opacity emissions. If three annual performance tests for the three-year period show compliance with opacity limits, the Permittee may again conduct performance testing every 2.5 years.</p>
		<p>For federal regulated pollutants, if all stack tests for a given pollutant over 3 consecutive years show compliance with the emission limit, the Permittee is not required to conduct a stack test for that pollutant for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant.</p> <p>To measure opacity, the Permittee must use Method 9 to determine the sampling location and pollutant concentration. The Permittee must use Method 9 to determine compliance with opacity limits, 3 hour observation period (thirty 6-min averages).</p> <p>The Permittee may use COMS data in lieu of Method 9 to determine compliance with opacity limits as approved by the EPA on March 8, 2006. [40 CFR 62.15215(e), 40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8, Minn. R. 7011.1265, subp. 1, Minn. R. 7011.1270(B)]</p>

SI Id	Sequence	Requirement
EQUI 1	148	<p>Mercury : The Permittee must conduct performance test : Due annually to measure mercury emissions. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>The facility may implement testing for mercury not less than once every three years or according to federal applicable requirements, whichever is more stringent, under the following conditions: the facility has demonstrated that mercury emissions have been below 50 percent of the facility's permitted long-term limit for three consecutive years. If a facility is granted testing for mercury not less than once every three years or according to federal applicable requirements, whichever is more stringent, and a mercury performance test shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the facility shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the facility demonstrates that mercury emissions are again below 50 percent of the facility's permitted limit, the facility may resume testing every three years, upon notifying the Commissioner in writing.</p>
		<p>For federal regulated pollutants, if all stack tests for a given pollutant over 3 consecutive years show compliance with the emission limit, the Permittee is not required to conduct a stack test for that pollutant for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant.</p> <p>To measure mercury, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 29 to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. Compliance testing must be performed while the municipal waste combustion unit is operating at full load. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8, Minn. R. 7011.1265, subp. 1, Minn. R. 7011.1270(B)(3), Minn. R. 7017.2030, subp. 1, Minn. Stat. 116.85, subd. 3]</p>
EQUI 1	149	<p>Muni Waste Combust Organics : The Permittee must conduct performance test : Due annually to measure Muni Waste Combust Organics (dioxins/furans or PCDD/PCDF) emissions. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>For state regulated pollutants, if 3 annual performance tests for a three-year period show compliance with dioxin/furan emission limits, the Permittee may continue to conduct annual testing, or may choose to conduct performance tests every 2.5 years. At a minimum, a performance test must be conducted every 2.5 years, but no more than 30 months following the previous compliance test. If a performance test indicates noncompliance with applicable standards, the Permittee must resume annual testing for 3 years for dioxin/furan emissions. If 3 annual performance tests for the 3-year period show compliance with dioxin/furan emission limits, the Permittee may again conduct performance testing every 2.5 years.</p>

SI Id	Sequence	Requirement
		<p>For federal regulated pollutants, if all stack tests for a given pollutant over 3 consecutive years show compliance with the emission limit, the Permittee is not required to conduct a stack test for that pollutant for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant.</p> <p>To measure dioxins/furans, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 23 to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. The minimum sampling time must be 4 hours per test run while the municipal waste combustion unit is operating at full load.</p>
		<p>The Permittee may choose to conduct annual stack tests on only one municipal waste combustion unit per year subject to 40 CFR pt. 62, subp JJJ at the plant, if TREAs 1 and 19 have demonstrated levels of dioxins/furans emissions less than or equal to 30 nanograms per dry standard cubic meter (total mass), for 2 consecutive years.</p> <p>(1) The Permittee must conduct the stack test no more than 13 months following a stack test on any municipal waste combustion unit. Each year, test a different municipal waste combustion unit and test all municipal waste combustion units in a sequence that the Permittee determines. Once the Permittee determines a testing sequence, the testing sequence must not be changed without approval by the Administrator.</p> <p>(2) If each annual stack test shows levels of dioxins/furans less than or equal to 30 nanograms per dry standard cubic meter (total mass), the Permittee may continue stack tests on only one municipal waste combustion unit per year.</p> <p>(3) If any annual stack test indicates levels of dioxins/furans greater than 30 nanograms per dry standard cubic meter (total mass), conduct subsequent annual stack tests on all municipal waste combustion units subject to 40 CFR pt. 62, subp. JJJ at the plant. The Permittee may return to testing one municipal waste combustion unit per year if the Permittee can demonstrate dioxins/furans emission levels are less than or equal to 30 nanograms per dry standard cubic meter (total mass), for TREAs 1 and 19 for 2 consecutive years. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR 62.15250(b), 40 CFR pt. 62, subp. JJJ, Table 8, Minn. R. 7011.1265, subp. 1, Minn. R. 7011.1270(B)]</p>

SI Id	Sequence	Requirement
EQUI 1	151	<p>Particulate Matter : The Permittee must conduct performance test : Due annually to measure particulate matter (PM) emissions. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>For federal regulated pollutants, if all stack tests for a given pollutant over 3 consecutive years show compliance with the emission limit, the Permittee is not required to conduct a stack test for that pollutant for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant.</p> <p>To measure PM for federal regulated pollutants, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 5 or 29 to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. The minimum sample volume must be 1.0 cubic meters. The probe and filter holder heating systems in the sample train must be set to provide a gas temperature no greater than 160 plus or minus 14 degrees Celsius. The minimum sampling time is 1 hour. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8]</p>
EQUI 1	158	<p>Particulate Matter : The Permittee must conduct a performance test : Due annually to measure particulate matter (PM) emissions. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>For state regulated pollutants, if three annual performance tests for a three-year period show compliance with PM emission limits, the Permittee may continue to conduct annual testing, or may choose to conduct performance tests every 2.5 years. At a minimum, a performance test must be conducted every 2.5 years, but no more than 30 months following the previous compliance test. If a performance test indicates noncompliance with applicable standards, the Permittee must resume annual testing for three years for PM emissions. If three annual performance tests for the three-year period show compliance with PM emission limits, the Permittee may again conduct performance testing every 2.5 years.</p> <p>To measure PM for state regulated pollutants, the Permittee must use Method 5, 40 CFR pt. 60, Appendix A-3, as amended, and Method 202, 40 CFR pt. 51, Appendix M, as amended. [Minn. R. 7011.1265, subp. 1, Minn. R. 7011.1270(B)]</p>

SI Id	Sequence	Requirement
EQUI 1	159	<p>Cadmium : The Permittee must conduct performance test : Due annually to measure cadmium emissions. The Permittee must conduct each annual stack test no later than 13 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>The Permittee may test less often if all stack tests for cadmium over 3 consecutive years show compliance with the cadmium limit. In this case, the Permittee is not required to conduct a stack test for cadmium for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the cadmium limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for cadmium.</p> <p>To measure cadmium, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 29 to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. Compliance testing must be performed while the municipal waste combustion unit is operating at full load. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8]</p>
EQUI 1	160	<p>Lead : The Permittee must conduct a performance test : Due annually to measure lead emissions. The Permittee must conduct each annual stack test no later than 13 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>The Permittee may test less often if all stack tests for lead over 3 consecutive years show compliance with the lead limit. In this case, the Permittee is not required to conduct a stack test for lead for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the lead limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for lead.</p> <p>To measure lead, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 29 to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. Compliance testing must be performed while the municipal waste combustion unit is operating at full load. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8]</p>



SI Id	Sequence	Requirement
EQUI 1	161	<p>Hydrogen Chloride : The Permittee must conduct a performance test : Due annually to measure hydrogen chloride (HCl) emissions. The Permittee must conduct each annual stack test no later than 13 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>The Permittee may test less often if all stack tests for HCl over 3 consecutive years show compliance with the HCl limit. In this case, the Permittee is not required to conduct a stack test for HCl for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the HCl limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for HCl.</p> <p>To measure hydrogen chloride, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 26 or 26A to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. Test runs must be at least 1 hour long while the municipal waste combustion unit is operating at full load. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8]</p>
EQUI 1	19650	<p>Fugitive ash: The Permittee must conduct performance test : Due annually for fugitive ash emissions. The Permittee must conduct each annual stack test no later than 13 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>The Permittee may test less often if all stack tests for fugitive ash emissions over 3 consecutive years show compliance with the fugitive ash emissions limit. In this case, the Permittee is not required to conduct a stack test for fugitive ash emissions for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the fugitive ash emissions limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for fugitive ash.</p> <p>To measure fugitive ash, the Permittee must use Method 22 (visible emissions) to determine pollutant concentration. The three 1-hour observation period must include periods when the Permittee transfers fugitive ash from the waste combustion unit to the area where fugitive ash is stored or loaded into containers or trucks.&lt;T&gt;. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8]</p>
EQUI 1	19651	<p>Performance Test Report: due 45 days after Performance Test (60 days for dioxin test) or 14 days after receipt of the Performance Test Report by the Permittee for each Performance Test conducted, whichever is later. Each report must bear the Permittee's date stamp receipt. [Minn. R. 7011.1285, subp. 6, Minn. R. 7017.2035, subp. 1, Minn. R. 7017.2035, subp. 2]</p>

SI Id	Sequence	Requirement
EQUI 19	1	<p>Steam Flow &lt;= 14,180.1 pounds per hour 4-hour block average, (as determined during the April 23-26, 2019 PCDD/PCDF performance test). Notwithstanding the previous sentence, upon the Commissioner's written notification that the emissions unit has demonstrated compliance under the conditions of a PCDD/PCDF performance test and prior to incorporation of the steam flow rate into this permit, the Permittee must not exceed 110 percent of the maximum demonstrated load established during that compliant performance test.</p> <p>Maximum demonstrated load of a municipal waste combustion unit means the highest 4-hour block arithmetic average municipal waste combustion unit load achieved during 4 consecutive hours in the course of the most recent dioxins/furans stack test that demonstrates compliance with the applicable emission limit for dioxins/furans specified in this permit.</p> <p>The waste combustor is exempt from limits on load level during any of three situations:  (1) Annual tests for dioxins/furans.  (2) The 2 weeks preceding annual tests for dioxins/furans.  (3) Whenever approved in writing by the Administrator and Commissioner for any of following activities:</p>
		<p>(i) Evaluate system performance.  (ii) Test new technology or control technologies.  (iii) Perform diagnostic testing.  (iv) Perform other activities to improve the performance of the waste combustor.  (v) Perform other activities to advance the state of the art for emission controls for the waste combustor.</p> <p>The Permittee shall provide written notification submitted to the Commissioner and Administrator 30 days prior to undertaking any of the activities described above in 3(i) - (v), with the following information:  1) a description of the proposed project, and the outcome the project is designed to evaluate;  2) how the project conforms with the activities described above for which the waste combustor load level limit can be waived;  3) the length of time the project will take to complete. [40 CFR 62.15145(a), 40 CFR 62.15145(e), Minn. R. 7011.1240, subp. 5, Minn. R. 7017.2025, subp. 3]</p>
EQUI 19	6	<p>The Permittee must limit emissions of Muni Waste Combust Organics &lt;= 125 nanograms per dscm using a 3-run average (minimum run duration is 4 hours) and determine compliance by stack test measured at 7 percent oxygen. Muni Waste Combust Organics (dioxins/furans) means tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]</p>
EQUI 19	8	<p>The Permittee must limit emissions of Muni Waste Combust Organics &lt;= 500 nanograms per dscm. Muni Waste Combust Organics means total of tetra-through octa-polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans. This limit is applied in accordance with the "Applicability of Standards" stated in this permit. [Minn. R. 7011.1227]</p>
EQUI 19	9	<p>The Permittee must limit emissions of Cadmium &lt;= 0.10 milligrams per dscm using a 3-run average (run duration specified in test method) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]</p>
EQUI 19	10	<p>The Permittee must limit emissions of Lead &lt;= 1.6 milligrams per dscm using a 3-run average (run duration specified in test method) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]</p>
EQUI 19	11	<p>The Permittee must limit emissions of Mercury &lt;= 0.080 milligrams per dscm (or 85 percent reduction of potential mercury emissions) using a 3-run average (run duration specified in test method) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]</p>

SI Id	Sequence	Requirement
EQUI 19	12	The Permittee must limit emissions of Mercury $\leq$ 100 micrograms per dscm, or 85% removal (short term), whichever is less stringent. This limit is applied in accordance with the "Applicability of Standards" stated in this permit. [Minn. R. 7011.1227]
EQUI 19	13	The Permittee must limit emissions of Mercury $\leq$ 60 micrograms per dscm, or 85% removal (long term), whichever is less stringent. This limit is applied in accordance with the "Applicability of Standards" stated in this permit. [Minn. R. 7011.1227]
EQUI 19	14	The Permittee must limit emissions of Particulate Matter $\leq$ 70 milligrams per dscm using a 3-run average (run duration specified in test method) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 19	15	The Permittee must limit emissions of Particulate Matter $\leq$ 0.04 grains per dry standard cubic foot This limit is applied in accordance with the "Applicability of Standards" stated in this permit. [Minn. R. 7000.7000, variance (12/22/1997), Minn. R. 7011.1227]
EQUI 19	16	The Permittee must limit Opacity $\leq$ 10 percent opacity using thirty 6-minute averages and determine compliance by stack test. This limit is applied in accordance with 40 CFR Section 62.15165.  The Permittee may use COMS data in lieu of Method 9 to determine compliance with opacity limits as approved by the EPA on March 8, 2006. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 19	17	The Permittee must limit Opacity $\leq$ 10 percent opacity. [Minn. R. 7011.1227]
EQUI 19	18	The Permittee must limit emissions of Hydrogen Chloride $\leq$ 250 parts per million by volume (or 50 percent reduction of potential hydrogen chloride emissions) using a 3-run average (minimum run duration is 1 hour) and determine compliance by stack test measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 19	19	The Permittee must limit emissions of Nitrogen Oxides $\leq$ 500 parts per million by dry volume. No monitoring, testing, record keeping, or reporting is required to demonstrate compliance. Five hundred parts per million is equal to 12.4 lb NO <sub>x</sub> per hour for each unit. The potential-to-emit for each of these units is 6.2 lb per hour. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 19	20	The Permittee must limit emissions of Sulfur Dioxide $\leq$ 77 parts per million (or 50 percent reduction of potential sulfur dioxides emissions) using a 24-hour daily block geometric average concentration (or percent reduction) and determine compliance by continuous emission monitoring system measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4]
EQUI 19	21	The Permittee must limit Visible Emissions $\leq$ 5 percent of fugitive combustion ash from an ash conveying system, or buildings or enclosures of ash conveying systems, including conveyor transfer points, for an hourly observation period using three 1-hour observation periods (i.e. 9 minutes per three-hour period), as determined by 40 CFR pt. 60, Appendix A, Method 22, as amended. [40 CFR 62.15160(a)(2), 40 CFR pt. 62, subp. JJJ, Table 4, Minn. R. 7011.1225, subp. 1(B)]
EQUI 19	22	The Permittee must limit emissions of Carbon Monoxide $\leq$ 50 parts per million 4-hour block average by dry volume using a 4-hour block average, arithmetic mean and determine compliance by continuous emission monitoring systems measured at 7 percent oxygen. This limit is applied in accordance with 40 CFR Section 62.15165. [40 CFR 62.15160(a)(3), 40 CFR pt. 62, subp. JJJ, Table 5]
EQUI 19	23	The Permittee must limit emissions of Carbon Monoxide $\leq$ 50 parts per million. [Minn. R. 7011.1227]
EQUI 19	26	The emission limits of 40 CFR pt. 62, subp. JJJ apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction. Each startup, shutdown, or malfunction must not last for longer than 3 hours.  A maximum of 3 hours of test data can be dismissed from compliance calculations during periods of startup, shutdown, or malfunction.  During startup, shutdown, or malfunction periods longer than 3 hours, emissions data cannot be discarded from compliance calculations and all provisions under 40 CFR Section 60.11(d) apply. [40 CFR 62.15165]

SI Id	Sequence	Requirement
EQUI 19	27	<p>Applicability of Standards. The standards of Minn. R. 7011.1227, Minn. R. 7011.1228, Minn. R. 7011.1229, Minn. R. 7011.1230, Minn. R. 7011.1233, Minn. R. 7011.1240, subp. 2, and Minn. R. 7011.1272, subp. 2, apply at all times when waste is being continuously burned, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction does not exceed three hours. Fugitive emissions standards applicable to ash conveying systems do not apply during maintenance and repair of ash conveying systems. "Malfunction" means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown are not considered malfunctions.</p> <p>The start-up period commences when the waste combustor begins the continuous burning of solid waste and does not include any warm-up period when the waste combustor is combusting fossil fuel or other solid fuel.</p> <p>Continuous burning is the continuous, semicontinuous, or batch feeding of solid waste for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of solid waste solely to provide thermal protection of the grate or hearth during the start-up period when municipal solid waste is not being fed to the grate is not considered to be continuous burning. [Minn. R. 7011.1215, subp. 4]</p>
EQUI 19	28	The Permittee shall vent emissions from EQUI 19 to control equipment meeting the requirements of TREAs 1, 3, and 5 whenever EQUI 19 operates. [Minn. R. 7007.0800, subp. 2(A)]
EQUI 19	29	The Permittee must not cause gases to be emitted into the atmosphere from EQUI 19 in excess of the applicable standards of performance shown in Minn. R. 7011.1227. Emissions, except opacity, shall be calculated under standard conditions corrected to seven percent oxygen on a dry volume basis. The Permittee may determine compliance with the emission limitations using carbon dioxide measurements corrected to an equivalent of seven percent oxygen. [Minn. R. 7011.1225, subp. 1(A)]
EQUI 19	30	The Permittee must use data from the continuous emission monitoring systems for sulfur dioxide and carbon monoxide to demonstrate continuous compliance with the applicable emission limits specified in 40 CFR pt. 62, subp. JJJ, Tables 4 and 5. [40 CFR 62.15180]
EQUI 19	33	<p>When the Permittee does not obtain continuous emissions data for sulfur dioxide removal efficiency, sulfur dioxide or nitrogen oxide emission rates, or carbon monoxide because of monitor breakdowns, repairs, calibration checks, and zero and span adjustments, emission data calculations to determine compliance must be made using the following methods:</p> <p>1) for sulfur dioxide removal efficiency or sulfur dioxide or nitrogen oxide emission concentrations, 40 CFR pt. 60, Appendix A, Method 19, as amended, to provide valid emission data in order to meet the requirements of Minn. R. 7011.1260, subp. 5(B). Other monitoring systems or other data collection methods may be used as approved by the Commissioner; and</p> <p>2) for carbon monoxide, 40 CFR pt. 60, Appendix A, Method 10, as amended, to provide valid emission data in order to meet the requirements of Minn. R. 7011.1260, subp. 5(B). Other monitoring systems or other data collection methods may be used as approved by the Commissioner. [Minn. R. 7011.1260, subp. 5(D)]</p>
EQUI 19	34	<p>The Permittee must use results of stack tests for muni waste combust organics (dioxins/furans), cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash to demonstrate compliance with the applicable emission limits in 40 CFR pt. 62, subp. JJJ, Table 4.</p> <p>The Permittee may use COMS data in lieu of Method 9 to determine compliance with opacity limits as approved by the EPA on March 8, 2006. [40 CFR 62.15235]</p>
EQUI 19	36	Fuel Type: Natural gas and mixed municipal solid waste processed onsite in the materials recovery facility. [Minn. R. 7007.0800, subp. 2(A)]

SI Id	Sequence	Requirement
EQUI 19	40	The Permittee must use natural gas to warm the combustion and pollution control devices, and to maintain good combustion conditions in the combustion chamber from the time the waste feed has been discontinued until the combustion chamber is clear of combustible material or active combustion ceases. [Minn. R. 7007.0800, subp. 2]
EQUI 19	70	<p>The Permittee must not use the waste combustor dumpstack (STRU 2) for conducting routine inspection or maintenance on the control equipment or the combustion system without prior approval of the Commissioner.</p> <p>The Permittee must only use STRU 2 when plant or worker safety would be in jeopardy without its use.</p> <p>The Permittee must record in the daily operating record required in Minn. R. 7011.1285, subp. 2, the date of use of STRU 2, the length of time STRU 2 was used, the operating conditions of EQUI 19 during STRU 2 use, and the reason for using STRU 2. [Minn. R. 7011.1240, subp. 7]</p>
EQUI 19	71	<p>The Permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system when burning solid waste. The Permittee must install monitoring systems that continuously read and record the following outputs:</p> <ol style="list-style-type: none"> <li>1) for carbon monoxide at the outlet of EQUI 19;</li> <li>2) for steam flow or an alternative unit load measurement parameter as described in Minn. R. 7011.1265, subp. 4a, in waste combustors which recover heat with a boiler;</li> <li>3) for flue gas opacity, at a location after which the flue gas has exited the air pollution control equipment; and</li> <li>4) for oxygen or carbon dioxide at each location where carbon monoxide, sulfur dioxide, or nitrogen oxides emissions are monitored, to report corrected concentrations of regulated pollutants;</li> <li>5) for nitrogen oxides; and</li> <li>6) for sulfur dioxide. If the Permittee chooses to determine compliance by monitoring the percent reduction of sulfur dioxide emissions, monitors shall be installed at the inlets and outlets of the air pollution control system.</li> </ol> <p>[40 CFR 62.15215(a), Minn. R. 7011.1260, subp. 3]</p>
EQUI 19	72	<p>The Permittee must also monitor three operating parameters:</p> <ol style="list-style-type: none"> <li>(a) Load level of EQUI 19.</li> <li>(b) Temperature of flue gases at the inlet of TREA 1.</li> <li>(c) Carbon feed rate. [40 CFR 62.15260]</li> </ol>
EQUI 19	73	The Permittee must install, calibrate, maintain, and operate a device to continuously measure the temperature of the flue gas stream at the inlet of each particulate matter control device. [40 CFR 62.15270, Minn. R. 7011.1260, subp. 2]
EQUI 19	74	The Permittee must report to the Commissioner the operating conditions including operating parameters of the air pollution control equipment, flue gas temperatures, air flow rates, and pressure drop across the combustion system. [Minn. R. 7011.1265, subp. 6]
EQUI 19	80	The Permittee must determine the maximum demonstrated capacity of EQUI 19 during each subsequent performance test during which compliance with the PCDD/PCDF emission limit in Minn. R. 7011.1225 and 40 CFR Section 62.15160 is achieved. [Minn. R. 7011.1265, subp. 7]
EQUI 19	101	The Permittee must determine and record the four-hour arithmetic average gas stream temperature as measured at the inlet to each particulate matter control device during each subsequent performance test for PCDD/PCDFs demonstrating compliance with the PCDD/PCDF emission limit in Minn. R. 7011.1225 and 40 CFR 62.15160. [Minn. R. 7011.1265, subp. 8]

SI Id	Sequence	Requirement
EQUI 19	102	<p>The Permittee must select a carbon injection system operating parameter that can be used to calculate carbon feed rate. The Permittee selected to use the activated carbon feeder auger rotation rate as a surrogate for the activated carbon feed rate.</p> <p>During each dioxins/furans and mercury stack test, the Permittee must determine the average carbon feed rate in pounds per hour and determine the average operating parameter level that correlates to the carbon feed rate. The Permittee must establish a relationship between the operating parameter and the carbon feed rate in order to calculate the carbon feed rate based on the operating parameter level. The Permittee must submit the calculations supporting the correlation with the results of the mercury or PCDD/PCDF performance test.</p> <p>The Permittee must continuously monitor the selected operating parameter during all periods when EQUI 19 is operating and combusting waste and calculate the 8-hour block average carbon feed rate in pounds per hour, based on the selected operating parameter. When calculating the 8-hour block average, do two things:</p> <ol style="list-style-type: none"> <li>(1) Exclude hours when EQUI 19 is not operating.</li> <li>(2) Include hours when EQUI 19 is operating but the carbon feed system is not working correctly. [40 CFR 62.15275, Minn. R. 7011.1272, subp. 1]</li> </ol>
EQUI 19	107	<p>The Permittee must obtain 1-hour arithmetic averages for three parameters:</p> <ol style="list-style-type: none"> <li>(1) Load level of EQUI 19.</li> <li>(2) Temperature of the flue gases at the inlet of the particulate matter control device.</li> <li>(3) Carbon feed rate for activated carbon used to control dioxins/furans or mercury emissions.</li> </ol> <p>The Permittee must obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average.</p> <p>The Permittee must obtain valid 1-hour averages for at least 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.</p> <p>If the Permittee does not obtain the minimum data required in 40 CFR Section 62.15280, the Permittee is in violation of this data collection requirement and the Permittee must notify the Administrator according to 40 CFR Section 62.15340(e). [40 CFR 62.15280, Minn. R. 7011.1260, subp. 5(B)]</p>
EQUI 19	111	<p>Exceedances of continuously monitored emission limits. If accurate and valid data results collected from continuous monitors for sulfur dioxide, nitrogen oxides, or carbon monoxide data exceed emission limits established in Minn. R. 7011.1225 or in this permit after normal start-up, the Permittee must undertake the following actions:</p> <ol style="list-style-type: none"> <li>A. The Permittee must report the exceedance(s) to the Commissioner as soon as reasonably possible giving consideration to matters of plant or worker safety, or access to communications.</li> <li>B. The Permittee must commence appropriate repairs or modifications to return EQUI 19 to compliance within 72 hours of the exceedance.</li> <li>C. If EQUI 19 cannot be returned to compliance within 72 hours of the occurrence of the exceedance, the Permittee must shut down EQUI 19. If the modifications to return EQUI 19 to compliance require an amendment of this permit, the Permittee must shut down EQUI 19 within 72 hours of the exceedance.</li> <li>D. When repairs or modifications have been completed, the Permittee must demonstrate to the Commissioner that EQUI 19 is in compliance. The Permittee may start up EQUI 19 after the Permittee has notified the Commissioner in writing of the date the Permittee plans to start up EQUI 19 and the date that compliance testing is scheduled. The Permittee must submit notification at least ten days in advance of the compliance test date. [Minn. R. 7011.1260, subp. 7]</li> </ol>

SI Id	Sequence	Requirement
EQUI 19	112	<p>The Permittee must maintain a record of the information listed below. The Permittee must maintain a permanent record of continuously measured parameters. The record of monitoring shall contain:</p> <p>a) the calendar date;</p> <p>b) the following measurements recorded in a manner that allows the data to be immediately accessed upon inspection by the Commissioner:</p> <ol style="list-style-type: none"> <li>1) all six-minute opacity readings;</li> <li>2) all one-hour average sulfur dioxide emission concentrations at the inlet and outlet of the acid gas control device if compliance is based on a percent reduction, or at the outlet only if compliance is based on the outlet emission limit; and</li> <li>3) all one-hour average carbon monoxide and nitrogen oxide emission concentrations, steam flow, or alternative unit load measurement parameter as described in Minn. R.7011.1265, subpart 4a, combustion chamber temperature, and flue gas temperatures at the inlet of the particulate matter control device;</li> </ol> <p>c) the following average concentrations and parameters:</p> <ol style="list-style-type: none"> <li>1) all 24-hour daily geometric average percent reductions in sulfur dioxide emissions or all 24-hour daily geometric average sulfur dioxide emission concentrations, as applicable;</li> <li>2) all 24-hour daily arithmetic average nitrogen oxides emission concentrations;</li> <li>3) all four-hour block or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable; and</li> <li>4) all four-hour block arithmetic average unit load levels, and particulate matter control device inlet temperatures. [40 CFR 62.15305(a) and (b), Minn. R. 7011.1260, subp. 6]</li> </ol>
EQUI 19	119	<p>Daily Operating Record. The Permittee must maintain a daily record of the operation of the waste combustor. The record must contain:</p> <ul style="list-style-type: none"> <li>- the calendar date;</li> <li>- the hours of operation;</li> <li>- the weight of waste combusted;</li> <li>- the weight of waste requiring disposal at a solid waste land disposal facility, including separated noncombustibles, excess waste, and ash;</li> <li>- the amount and description of industrial solid waste received each day, the generator's name, and the method of handling;</li> <li>- the measurements and determination of emissions averages as required in Minn. R. 7011.1260, subpart 6;</li> <li>- results of performance tests conducted on waste combustor units as required in this permit;</li> <li>- instances of dumpstack use;</li> <li>- the names of persons who have completed initial review or subsequent annual review of the operating manual;</li> <li>- calendar dates whenever any of the pollutants or parameter levels recorded in 40 CFR Section 62.15305(b) or the opacity level recorded in 40 CFR Section 62.15305(a)(1) did not meet the emission limits or operating levels specified in 40 CFR pt. 62, subp. JJJ.</li> <li>- the reasons for exceeding any of the applicable emission limits, percent reductions, or operating levels and parameters specified in this permit, or six-minute average COMS measurements that exceed the opacity limit, and a description of the corrective actions the Permittee took, or is taking, to meet the emission limits or operating levels.</li> <li>- reasons for not obtaining the minimum number of hours or collecting the minimum amount of data required under 40 CFR Sections 62.15205 and 62.15280 for sulfur dioxide or operational data for opacity, carbon monoxide, steam flow, load levels of the municipal waste combustion unit, and temperatures of the flue gases at the inlet of the particulate matter control device, and a description of corrective actions the Permittee took, or is taking, to meet the emission limits or operating levels.</li> </ul>

SI Id	Sequence	Requirement
		<ul style="list-style-type: none"> <li>- the date of the calibration of all signal conversion elements associated with steam flow monitoring as required in Minn. R. 7011.1265, subp. 4.</li> <li>- if the required hourly average additive system operating parameter is not maintained, the reasons for not maintaining the additive system operating parameter as determined in Minn. R. 7011.1272, subp. 2 and the corrective actions taken.</li> <li>- if the required hourly average additive mass feed rate is not maintained, the reasons for not maintaining the additive mass feed rates as determined in Minn. R. 7011.1272, subp. 1 and the corrective actions taken.</li> <li>- the time when waste begins feeding and the unit load of the steam turbine at the time;</li> <li>- the time the waste feed to the combustion chamber ceases;</li> <li>- the time when PM control equipment by-pass begins;</li> <li>- the time when PM control bypass ceases;</li> <li>- mercury additive feed rate:</li> <li>- a record of the activated carbon feeder auger rotation rate for every shift</li> <li>- a record that operators periodically visually observed the carbon being fed into the flue gas during their shift.</li> <li>- a record of the daily calibration of the auger rotation speed and if any adjustments are necessary.</li> <li>- a record of the average additive mass feed rate for each hour of operation. [40 CFR 62.15305(c) and (d), Minn. R. 7007.0800, subp. 2, A, Minn. R. 7011.1285]</li> </ul>
EQUI 19	146	<p>Records of exclusions. The Permittee must document each time data is excluded from the calculation of averages for any of the following pollutants or parameters and the reasons the data were excluded:</p> <ol style="list-style-type: none"> <li>1) Sulfur dioxide emissions.</li> <li>2) Carbon monoxide emissions.</li> <li>3) Load levels of EQUI 19.</li> <li>4) Temperatures of the flue gases at the inlet of the particulate matter control device (TREA 1). [40 CFR 62.15305(e)]</li> </ol>
EQUI 19	147	<p>Opacity : The Permittee must conduct performance test : Due annually to measure opacity. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>For state regulated pollutants, if three annual performance tests for a three-year period show compliance with opacity limits, the Permittee may continue to conduct annual testing, or may choose to conduct performance tests every 2.5 years. At a minimum, a performance test must be conducted every 2.5 years, but no more than 30 months following the previous compliance test. If a performance test indicates noncompliance with applicable standards, the Permittee must resume annual testing for three years for opacity emissions. If three annual performance tests for the three-year period show compliance with opacity limits, the Permittee may again conduct performance testing every 2.5 years.</p>



SI Id	Sequence	Requirement
		<p>For federal regulated pollutants, if all stack tests for a given pollutant over 3 consecutive years show compliance with the emission limit, the Permittee is not required to conduct a stack test for that pollutant for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant.</p> <p>To measure opacity, the Permittee must use Method 9 to determine the sampling location and pollutant concentration. The Permittee must use Method 9 to determine compliance with opacity limits, 3 hour observation period (thirty 6-min averages).</p> <p>The Permittee may use COMS data in lieu of Method 9 to determine compliance with opacity limits as approved by the EPA on March 8, 2006. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8, Minn. R. 7011.1265, subp. 1, Minn. R. 7011.1270(B)]</p>
EQUI 19	148	<p>Mercury : The Permittee must conduct performance test : Due annually to measure mercury emissions. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>The facility may implement testing for mercury not less than once every three years or according to federal applicable requirements, whichever is more stringent, under the following conditions: the facility has demonstrated that mercury emissions have been below 50 percent of the facility's permitted long-term limit for three consecutive years. If a facility is granted testing for mercury not less than once every three years or according to federal applicable requirements, whichever is more stringent, and a mercury performance test shows mercury emissions greater than 50 percent of the facility's permitted mercury limit, the facility shall conduct annual mercury stack sampling until emissions are below 50 percent of the facility's permitted mercury limit. Once the facility demonstrates that mercury emissions are again below 50 percent of the facility's permitted limit, the facility may resume testing every three years, upon notifying the Commissioner in writing.</p>
		<p>For federal regulated pollutants, if all stack tests for a given pollutant over 3 consecutive years show compliance with the emission limit, the Permittee is not required to conduct a stack test for that pollutant for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant.</p> <p>To measure mercury, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 29 to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. Compliance testing must be performed while the municipal waste combustion unit is operating at full load. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8, Minn. R. 7011.1265, subp. 1, Minn. R. 7011.1270(B)(2), Minn. R. 7017.2030, subp. 1, Minn. Stat. 116.85, subd. 3]</p>

SI Id	Sequence	Requirement
EQUI 19	149	<p>Muni Waste Combust Organics : The Permittee must conduct performance test : Due annually to measure Muni Waste Combust Organics (dioxins/furans or PCDD/PCDF) emissions. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>For state regulated pollutants, if 3 annual performance tests for a three-year period show compliance with dioxin/furan emission limits, the Permittee may continue to conduct annual testing, or may choose to conduct performance tests every 2.5 years. At a minimum, a performance test must be conducted every 2.5 years, but no more than 30 months following the previous compliance test. If a performance test indicates noncompliance with applicable standards, the Permittee must resume annual testing for 3 years for dioxin/furan emissions. If 3 annual performance tests for the 3-year period show compliance with dioxin/furan emission limits, the Permittee may again conduct performance testing every 2.5 years.</p> <p>For federal regulated pollutants, if all stack tests for a given pollutant over 3 consecutive years show compliance with the emission limit, the Permittee is not required to conduct a stack test for that pollutant for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant.</p> <p>To measure dioxins/furans, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 23 to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. The minimum sampling time must be 4 hours per test run while the municipal waste combustion unit is operating at full load.</p>
		<p>The Permittee may choose to conduct annual stack tests on only one municipal waste combustion unit per year subject to 40 CFR pt. 62, subp JJJ at the plant, if TREAs 1 and 19 have demonstrated levels of dioxins/furans emissions less than or equal to 30 nanograms per dry standard cubic meter (total mass), for 2 consecutive years.</p> <p>(1) The Permittee must conduct the stack test no more than 13 months following a stack test on any municipal waste combustion unit. Each year, test a different municipal waste combustion unit and test all municipal waste combustion units in a sequence that the Permittee determines. Once the Permittee determines a testing sequence, the testing sequence must not be changed without approval by the Administrator.</p> <p>(2) If each annual stack test shows levels of dioxins/furans less than or equal to 30 nanograms per dry standard cubic meter (total mass), the Permittee may continue stack tests on only one municipal waste combustion unit per year.</p> <p>(3) If any annual stack test indicates levels of dioxins/furans greater than 30 nanograms per dry standard cubic meter (total mass), conduct subsequent annual stack tests on all municipal waste combustion units subject to 40 CFR pt. 62, subp. JJJ at the plant. The Permittee may return to testing one municipal waste combustion unit per year if the Permittee can demonstrate dioxins/furans emission levels are less than or equal to 30 nanograms per dry standard cubic meter (total mass), for TREAs 1 and 19 for 2 consecutive years. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR 62.15250(b), 40 CFR pt. 62, subp. JJJ, Table 8, Minn. R. 7011.1265, subp. 1, Minn. R. 7011.1270(B)]</p>

SI Id	Sequence	Requirement
EQUI 19	151	<p>Particulate Matter : The Permittee must conduct performance test : Due annually to measure particulate matter (PM) emissions. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>For federal regulated pollutants, if all stack tests for a given pollutant over 3 consecutive years show compliance with the emission limit, the Permittee is not required to conduct a stack test for that pollutant for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant.</p> <p>To measure PM for federal regulated pollutants, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 5 or 29 to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. The minimum sample volume must be 1.0 cubic meters. The probe and filter holder heating systems in the sample train must be set to provide a gas temperature no greater than 160 plus or minus 14 degrees Celsius. The minimum sampling time is 1 hour. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8]</p>
EQUI 19	152	<p>Particulate Matter : The Permittee must conduct a performance test : Due annually to measure particulate matter (PM) emissions. The Permittee must conduct each annual stack test no later than 12.5 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>For state regulated pollutants, if three annual performance tests for a three-year period show compliance with PM emission limits, the Permittee may continue to conduct annual testing, or may choose to conduct performance tests every 2.5 years. At a minimum, a performance test must be conducted every 2.5 years, but no more than 30 months following the previous compliance test. If a performance test indicates noncompliance with applicable standards, the Permittee must resume annual testing for three years for PM emissions. If three annual performance tests for the three-year period show compliance with PM emission limits, the Permittee may again conduct performance testing every 2.5 years.</p> <p>To measure PM for state regulated pollutants, the Permittee must use Method 5, 40 CFR pt. 60, Appendix A-3, as amended, and Method 202, 40 CFR pt. 51, Appendix M, as amended. [Minn. R. 7011.1265, subp. 1, Minn. R. 7011.1270(B)]</p>

SI Id	Sequence	Requirement
EQUI 19	158	<p>Cadmium : The Permittee must conduct performance test : Due annually to measure cadmium emissions. The Permittee must conduct each annual stack test no later than 13 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>The Permittee may test less often if all stack tests for cadmium over 3 consecutive years show compliance with the cadmium limit. In this case, the Permittee is not required to conduct a stack test for cadmium for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the cadmium limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for cadmium.</p> <p>To measure cadmium, the Permittee must use Method 1 to determine the sampling location. The Permittee must use Method 29 to measure pollutant concentration and simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B. Compliance testing must be performed while the municipal waste combustion unit is operating at full load. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8]</p>
EQUI 19	159	<p>Fugitive ash: The Permittee must conduct performance test : Due annually for fugitive ash emissions. The Permittee must conduct each annual stack test no later than 13 months after the previous stack test. At the time of permit issuance, the previous stack test was conducted on April 26, 2019.</p> <p>The Permittee may test less often if all stack tests for fugitive ash emissions over 3 consecutive years show compliance with the fugitive ash emissions limit. In this case, the Permittee is not required to conduct a stack test for fugitive ash emissions for the next 2 years. However, the Permittee must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the fugitive ash emissions limit. Thereafter, the Permittee must perform stack tests every third year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, the Permittee must conduct annual stack tests for that pollutant until all stack tests over 3 consecutive years show compliance with the emission limit for fugitive ash.</p> <p>To measure fugitive ash, the Permittee must use Method 22 (visible emissions) to determine pollutant concentration. The three 1-hour observation period must include periods when the Permittee transfers fugitive ash from the waste combustion unit to the area where fugitive ash is stored or loaded into containers or trucks.&lt;T&gt;. [40 CFR 62.15240(b), 40 CFR 62.15245(a), 40 CFR 62.15250(a), 40 CFR pt. 62, subp. JJJ, Table 8]</p>
EQUI 19	19650	<p>Performance Test Report: due 45 days after Performance Test (60 days for dioxin test) or 14 days after receipt of the Performance Test Report by the Permittee for each Performance Test conducted, whichever is later. Each report must bear the Permittee's date stamp receipt. [Minn. R. 7011.1285, subp. 6, Minn. R. 7017.2035, subp. 1, Minn. R. 7017.2035, subp. 2]</p>
EQUI 22	3570	<p>Filterable Particulate Matter &lt;= 0.60 pounds per million Btu heat input The potential to emit from the unit is 0.007 lb/MMBtu due to equipment design and allowable fuels. [Minn. R. 7011.0515, subp. 1]</p>
EQUI 22	3580	<p>Opacity &lt;= 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. [Minn. R. 7011.0515, subp. 2]</p>
EQUI 22	3632	<p>Fuel type: Natural gas only, by design. [Minn. R. 7005.0100, subp. 35a]</p>
EQUI 22	3637	<p>The Permittee shall keep records of fuel purchases showing fuel types. [Minn. R. 7007.0800, subp. 5]</p>

SI Id	Sequence	Requirement
EQUI 22	12250	<p>The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. DDDDD, as follows:</p> <p>40 CFR 63.7480;  40 CFR 63.7485;  40 CFR 63.7490(a);  40 CFR 63.7490(a)(1);  40 CFR 63.7490(d);  40 CFR 63.7495(b);  40 CFR 63.7495(d);  40 CFR 63.7499(l);  40 CFR 63.7500(a);  40 CFR 63.7500(a)(1);  40 CFR 63.7500(a)(3);  40 CFR 63.7500(f);  40 CFR 63.7510(e);  40 CFR 63.7505(a);  40 CFR 63.7515(d), five year tune-up frequency;</p>
		<p>40 CFR 63.7530(e);  40 CFR 63.7530(f);  40 CFR 63.7540(a);  40 CFR 63.7540(a)(10)(i)-(vi);  40 CFR 63.7540(a)(12), units with continuous oxygen trim systems;  40 CFR 63.7540(a)(13);  40 CFR 63.7540(b);  40 CFR 63.7545(a);  40 CFR 63.7545(e)(1) and (8);  40 CFR 63.7545(h);  40 CFR 63.7550(a);  40 CFR 63.7550(b), five year tune-up frequency;</p>
		<p>40 CFR 63.7550(c);  40 CFR 63.7550(c)(1);  40 CFR 63.7550(c)(5)(i)-(iii);  40 CFR 63.7550(c)(5)(xiv);  40 CFR 63.7550(c)(5)(xvii);  40 CFR 63.7550(h);  40 CFR 63.7550(h)(3);  40 CFR 63.7555(a);  40 CFR 63.7555(a)(1) and (2);  40 CFR 63.7555(h);  40 CFR 63.7560;  40 CFR 63.7565;  40 CFR 63.7570;  40 CFR 63.7575;  40 CFR pt. 63, subp. DDDDD, Table 3, items 1 and 4;  40 CFR pt. 63, subp. DDDDD, Table 9, item 1a; and  40 CFR pt. 63, subp. DDDDD, Table 10.</p> <p>A copy of 40 CFR pt. 63, subp. DDDDD is included in Appendix B.</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. [40 CFR pt. 63, subp. DDDDD, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.7050]</p>

SI Id	Sequence	Requirement
		<p>The Permittee must comply with all applicable requirements of 40 CFR pt. 63, subp. A as follows:</p> <p>40 CFR 63.1;  40 CFR 63.2;  40 CFR 63.3;  40 CFR 63.4;  40 CFR 63.5;  40 CFR 63.6(a);  40 CFR 63.6(b)(1);  40 CFR 63.6(b)(2);  40 CFR 63.6(b)(3);  40 CFR 63.6(b)(4);  40 CFR 63.6(b)(5);  40 CFR 63.6(b)(7);  40 CFR 63.6(c);  40 CFR 63.6(f)(2) and (3);</p>
EQUI 22	21090	<p>40 CFR 63.6(g);  40 CFR 63.6(i);  40 CFR 63.6(j);  40 CFR 63.7(a);  40 CFR 63.7(b);  40 CFR 63.7(c);  40 CFR 63.7(d);  40 CFR 63.7(e)(2)-(9);  40 CFR 63.7(f);  40 CFR 63.7(g);  40 CFR 63.7(h);  40 CFR 63.8(a);  40 CFR 63.8(b);  40 CFR 63.8(c)(1);  40 CFR 63.8(c)(1)(ii);  40 CFR 63.8(c)(2)-(9);  40 CFR 63.8(d)(1)-(3);  40 CFR 63.8(e);</p>

SI Id	Sequence	Requirement
		<p>40 CFR 63.8(f);  40 CFR 63.8(g);  40 CFR 63.9;  40 CFR 63.10(a);  40 CFR 63.10(b)(1);  40 CFR 63.10(b)(2)(i);  40 CFR 63.10(b)(2)(iii);  40 CFR 63.10(b)(2)(vi), (vii)-(xiv);  40 CFR 63.10(c)(1)-(9), (12), (13);  40 CFR 63.10(d)(1);  40 CFR 63.10(d)(2);  40 CFR 63.10(d)(4);  40 CFR 63.10(e);  40 CFR 63.10(f);  40 CFR 63.12;  40 CFR 63.13;  40 CFR 63.14;  40 CFR 63.15;and  40 CFR 63.16.</p> <p>A copy of 40 CFR pt. 63, subp. A is included in Appendix C. 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. 63, subp. A, Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150-7007.1500, Minn. R. 7011.7000, Minn. R. 7017.1010 &amp; 7017.2025, Minn. R. 7019.0100]</p>
EQUI 22	21100	<p>Compliance Report: The Permittee shall submit a 5-year compliance report: Due January 31, 2021, and every 60 months thereafter. The first compliance report must cover the period beginning on January 31, 2016, and ending on December 31, 2020. The first compliance report must be postmarked or submitted no later than January 31, 2021. Each subsequent compliance report must cover the applicable 5-year period from January 1 to December 31. Five-year compliance reports must be postmarked or submitted no later than January 31.</p> <p>The Permittee shall include the information listed in 40 CFR Section 63.7550(c)(5)(i)-(iii), (xiv), and (xvii) in the report and shall submit the report according to 40 CFR Section 63.7550(h)(3). [40 CFR 63.7550(a)-(b), 40 CFR 63.7550(c)(1), 40 CFR pt. 63, subp. DDDDD(Table 9), Minn. R. 7011.7050]</p>
EQUI 29	78	The Permittee must install, evaluate, and operate each continuous opacity monitoring system according to 40 CFR Section 60.13. [40 CFR 62.15215(b)]
EQUI 29	79	The Permittee must complete each annual evaluation of the continuous opacity monitoring system no more than 13 months after the previous evaluation. [40 CFR 62.15215(d)]
EQUI 29	2670	Monitoring Data: All COMS data must be reduced to six-minute averages. A six minute average is valid only if it contains data from at least five minutes within the averaging period. COMS data shall be reduced and calculated as outlined in Minn. R. 7017.1200, subp. 3. [Minn. R. 7017.1200, subp. 1-3]
EQUI 29	2680	The COMS requirements listed in this permit outline the typical standards of 40 CFR pt. 60 when combined with Minn. Rules. Additional monitoring requirements may also apply to the Facility based on this combination of standards and it is the responsibility of the Permittee to meet all applicable requirements. [Minn. R. 7007.0800, subp. 4(A)]
EQUI 29	2700	Monitoring Data: All COMS data must be reduced to six-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. [40 CFR 60.13(e)(1), 40 CFR 60.13(h)(2), Minn. R. 7017.1200, subp. 1-3]

SI Id	Sequence	Requirement
EQUI 29	2710	<p>Certification Test Plan due 30 days before Certification Test.  Certification Test Pretest Meeting due 7 days before Certification Test.  Certification Test Report due 45 days after Certification Test.</p> <p>The Test Plan and Test Report must be submitted in a format specified by the Commissioner. [Minn. R. 7017.1060, subp. 1-3, Minn. R. 7017.1080]</p>
EQUI 29	2730	<p>Continuous Operation: COMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A COMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. [40 CFR 60.13(e), Minn. R. 7017.1090]</p>
EQUI 29	2740	<p>QC Program: the facility owner or operator must conduct quality assurance and quality control as specified in Procedure 3 - Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources, 40 CFR Pt. 60, Appendix F. [Minn. R. 7017.1215]</p>
EQUI 29	2750	<p>COMS Daily Calibration Drift Test: The Calibration Drift shall be quantified and recorded at zero (low-level) and upscale (high-level) calibration drift at least once daily according to the procedures listed in 40 CFR Section 60.13(d)(2) and pt. 60, Appendix B, PS 1. The zero and upscale calibration levels must be determined using the span value specified in the applicable requirement. If the applicable requirement does not specify a span value, a span value of 60, 70, or 80 percent opacity must be used unless an alternative span value is approved by the Commissioner. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for COMS. [40 CFR 60.13(d)(1), Minn. R. 7017.1215]</p>
EQUI 29	2760	<p>COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar quarter in which the COMS calibration error audit was completed. [Minn. R. 7017.1220]</p>
EQUI 29	2780	<p>Recordkeeping: The owner or operator must retain records of all COMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. [Minn. R. 7017.1130]</p>
EQUI 29	2790	<p>Notification of Compliance Status: Due 30 days before performance test required by 40 CFR Section 60.8 if COMS data results will be used in lieu of 40 CFR, Part 60, Appendix A, Method 9 observation data to determine compliance with the opacity standard as allowed by 40 CFR Section 60.11(e)(5). [40 CFR 60.7(a)(7)]</p>
EQUI 29	2830	<p>COMS Certification/Recertification Test: due 90 days after the first excess emissions report required for the COMS or any change which invalidates the monitor's certification status as outlined in Minn. R. 7017.1050, subp. 2. [Minn. R. 7017.1050, subp. 1]</p>
EQUI 29	2850	<p>The Permittee shall conduct quarterly COMS performance audits: Due once per QA operating quarter (calendar quarter in which the unit operates at least 168 hours) after COMS certification test. Quarterly performance audits will include: optical alignment, calibration error, and zero compensation according to Procedure 3 of 40 CFR Pt. 60, Appendix F, section 10.0(2).</p> <p>Sources that achieve quality assured data for four consecutive quarters may reduce their auditing frequency to semi-annual. If a performance audit is failed, the source must resume quarterly testing for that audit requirement until it again demonstrates successful performance over four consecutive quarters. [40 CFR pt. 60, Appendix F]</p>
EQUI 29	2860	<p>The Permittee shall perform annual zero alignment as described in Procedure 3, section 10.3 of 40 CFR Pt. 60, Appendix F. [40 CFR pt. 60, Appendix F]</p>
EQUI 30	2200	<p>Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]</p>
EQUI 30	2220	<p>Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]</p>
EQUI 30	2460	<p>The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]</p>



SI Id	Sequence	Requirement
EQUI 30	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 31	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 31	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 31	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 31	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 32	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 32	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 32	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 32	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 33	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 33	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 33	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 33	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 34	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 34	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 34	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 34	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 35	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]

SI Id	Sequence	Requirement
EQUI 35	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 35	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 35	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 36	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 36	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 36	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 36	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 37	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 37	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 37	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 37	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 38	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 38	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 38	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 38	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 39	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 39	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 39	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]

SI Id	Sequence	Requirement
EQUI 39	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 40	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 40	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 40	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 40	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
EQUI 41	2200	Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which a RATA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 3]
EQUI 41	2220	Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter in which a CGA was conducted. [Minn. R. 7011.1285, subp. 3(G), Minn. R. 7017.1180, subp. 1]
EQUI 41	2460	The Permittee shall conduct a cylinder gas audit: Due by the end of each three of four calendar quarters but no more than three quarters in succession. A CGA is not required during any calendar quarter in which a RATA was performed. [40 CFR 62.15195(b), 40 CFR pt. 60, Appendix F, 5.1.2, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 4a]
EQUI 41	2470	The Permittee shall conduct a relative accuracy test audit: Due one of each four calendar quarters. [40 CFR 62.15185(d), 40 CFR 62.15195(a), 40 CFR pt. 60, Appendix F, 5.1.1, Minn. R. 7011.1260, subp. 5(G), Minn. R. 7017.1170, subp. 5a]
TREA 1	67	<p>The Permittee must limit the inlet gas stream Temperature <math>\leq</math> 405 degrees Fahrenheit (as determined during the April 23 - 26, 2019 polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/PCDF) performance test). The inlet gas stream to TREA 1 on EQUI 19 as measured by Minn. R. 7011.1260, subp. 4(A) must have a temperature of no greater than 30 degrees Fahrenheit above the maximum demonstrated temperature of the particulate matter control device (4-hour block average) at the inlet of the particulate matter control device. The maximum demonstrated temperature of the particulate matter control device means the highest 4-hour block arithmetic average flue gas temperature measured at the inlet of the particulate matter control device during 4 consecutive hours in the course of the most recent performance test for dioxins/furans emissions (PCDD/PCDF) that demonstrates compliance except as allowed in following items:</p> <p>A. During the annual PCDD/PCDF performance test and the two weeks preceding the annual PCDD/PCDF performance test, no particulate matter control device temperature limitations are applicable.</p>

SI Id	Sequence	Requirement
		<p>B. The Permittee must submit written notification to the Commissioner 30 days prior to evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions to waive the particulate matter control device temperature limits. The notification must include the following information:</p> <p>1) a description of the proposed project, and the outcome the project is designed to evaluate;</p> <p>2) how the project conforms with the activities described in Minn. R. 7011.1265 for which the temperature limit can be waived; and</p> <p>3) the length of time the project will take to complete; the project must be accomplished within 14 days. [40 CFR 62.15145(b), Minn. R. 7011.1240, subp. 2, Minn. R. 7017.2025, subp. 3]</p>
TREA 1	18210	<p>The Permittee must maintain the Secondary Voltage <math>\geq</math> 33.5 kilovolts daily average for each field during operation, unless a new minimum total power input is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum secondary voltage is required to be set, it will be based on the average secondary voltage recorded during the most recent MPCA approved performance test where compliance for particulate matter emissions was demonstrated, minus 5 kilovolts. The Permittee shall read and record the secondary voltage in TREA 1 at least once every 2 hours of operation of TREA 1. If a daily average secondary voltage drops below the minimum limit, the Permittee shall take corrective action. Maintain records of all corrective actions taken. [Minn. R. 7007.0800, subp. 2(A)]</p>
TREA 1	18220	<p>The Permittee must limit Opacity <math>\leq</math> 10 percent opacity, 6-minute averages. [Minn. R. 7007.0800, subp. 2(A)]</p>
TREA 1	18240	<p>The Permittee shall maintain fields online <math>\geq</math> 2 fields whenever emissions are vented to TREA 1. The Permittee shall record the minimum number of fields online in TREA 1 once each day of operation of TREA 1. If the minimum number of fields are found to not be online, take corrective action (as outlined in the O &amp; M plan) within 24-hours of discovery to return the minimum number of fields online. Maintain records of all corrective actions taken. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]</p>
TREA 1	18250	<p>The Permittee shall vent emissions from EQUI 19 to TREA 1 whenever EQUI 19 operates, and operate and maintain TREA 1 at all times that any emissions are vented to TREA 1. The Permittee shall document periods of non-operation of the control equipment TREA 1 whenever EQUI 19 is operating. [Minn. R. 7007.0800, subp. 2(A)]</p>
TREA 1	18260	<p>The Permittee shall operate and maintain the electrostatic precipitator (ESP) in accordance with the Operation and Maintenance (O &amp; M) Plan. The Permittee shall keep copies of the O &amp; M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]</p>
TREA 1	18280	<p>Daily Monitoring: The Permittee shall physically verify the operation of the Continuous Parameter Monitoring System (CPMS) at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain a written record of the daily verifications. [Minn. R. 7007.0800, subps. 4-5]</p>
TREA 1	19590	<p>Quarterly Inspections: At least once per calendar quarter, or more frequently if required by the manufacturer, the Permittee shall inspect the control equipment components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]</p>
TREA 1	19591	<p>Annual Inspections: At least once per calendar year, or more frequently if required by the manufacturer, the Permittee shall inspect the control equipment components not covered by the quarterly inspections. This includes, but is not limited to, components that are not subject to wear or plugging including structural components, housings, and hoods. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]</p>

SI Id	Sequence	Requirement
TREA 1	19592	<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- the monitored opacity, averaged over any 6-hour period, exceeds 9.2%;</li> <li>- any recorded operating parameter is outside the required operating range; or</li> <li>- the ESP or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return operation to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken for the ESP. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]</p>
TREA 2	67	<p>The Permittee must limit the inlet gas stream Temperature <math>\leq 407</math> degrees Fahrenheit (as determined during the April 23 - 26, 2019 polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/PCDF) performance test). The inlet gas stream to TREA 2 on EQUI 1 as measured by Minn. R. 7011.1260, subp. 4(A) must have a temperature of no greater than 30 degrees Fahrenheit above the maximum demonstrated temperature of the particulate matter control device (4-hour block average) at the inlet of the particulate matter control device. The maximum demonstrated temperature of the particulate matter control device means the highest 4-hour block arithmetic average flue gas temperature measured at the inlet of the particulate matter control device during 4 consecutive hours in the course of the most recent performance test for dioxins/furans emissions (PCDD/PCDF) that demonstrates compliance except as allowed in following items:</p> <p>A. During the annual PCDD/PCDF performance test and the two weeks preceding the annual PCDD/PCDF performance test, no particulate matter control device temperature limitations are applicable.</p>
		<p>B. The Permittee must submit written notification to the Commissioner 30 days prior to evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions to waive the particulate matter control device temperature limits. The notification must include the following information:</p> <ol style="list-style-type: none"> <li>1) a description of the proposed project, and the outcome the project is designed to evaluate;</li> <li>2) how the project conforms with the activities described in Minn. R. 7011.1265 for which the temperature limit can be waived; and</li> <li>3) the length of time the project will take to complete; the project must be accomplished within 14 days. [40 CFR 62.15145(b), Minn. R. 7011.1240, subp. 2, Minn. R. 7017.2025, subp. 3]. [40 CFR 62.15145(b), Minn. R. 7011.1240, subp. 2, Minn. R. 7017.2025, subp. 3]</li> </ol>
TREA 2	18210	<p>The Permittee must maintain Secondary Voltage <math>\geq 34.2</math> kilovolts daily average for each field during operation, unless a new minimum total power input is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum secondary voltage is required to be set, it will be based on the average secondary voltage recorded during the most recent MPCA approved performance test where compliance for particulate matter emissions was demonstrated, minus 5 kilovolts. The Permittee shall read and record the secondary voltage in TREA 2 at least once every 2 hours of operation of TREA 2. If a daily average secondary voltage drops below the minimum limit, the Permittee shall take corrective action. Maintain records of all corrective actions taken. [Minn. R. 7007.0800, subp. 2(A)]</p>
TREA 2	18220	<p>The Permittee must limit Opacity <math>\leq 10</math> percent opacity, 6-minute averages. [Minn. R. 7007.0800, subp. 2(A)]</p>

SI Id	Sequence	Requirement
TREA 2	18240	The Permittee shall maintain fields online $\geq$ 2 fields whenever emissions are vented to TREA 2. The Permittee shall record the minimum number of fields online in TREA 2 once each day of operation of TREA 2. If the minimum number of fields are found to not be online, take corrective action (as outlined in the O & M plan) within 24-hours of discovery to return the minimum number of fields online. Maintain records of all corrective actions taken. [Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]
TREA 2	18250	The Permittee shall vent emissions from EQUI 1 to TREA 2 whenever EQUI 1 operates, and operate and maintain TREA 2 at all times that any emissions are vented to TREA 2. The Permittee shall document periods of non-operation of the control equipment TREA 2 whenever EQUI 1 is operating. [Minn. R. 7007.0800, subp. 2(A)]
TREA 2	18270	The Permittee shall operate and maintain the electrostatic precipitator (ESP) in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
TREA 2	18280	Daily Monitoring: The Permittee shall continuously monitor opacity and physically verify the operation of the Continuous Opacity Monitoring System (COMS) (EQUI 29) at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain a written record of the daily verifications. [Minn. R. 7007.0800, subps. 4-5]
TREA 2	19590	Quarterly Inspections: At least once per calendar quarter, or more frequently if required by the manufacturer, the Permittee shall inspect the control equipment components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
TREA 2	19591	Annual Inspections: At least once per calendar year, or more frequently if required by the manufacturer, the Permittee shall inspect the control equipment components not covered by the quarterly inspections. This includes, but is not limited to, components that are not subject to wear or plugging including structural components, housings, and hoods. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5]
TREA 2	19592	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: <ul style="list-style-type: none"> <li>- the monitored opacity, averaged over any 6-hour period, exceeds 9.2%;</li> <li>- any recorded operating parameter is outside the required operating range; or</li> <li>- the ESP or any of its components are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return operation to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O &amp; M Plan for the ESP. The Permittee shall keep a record of the type and date of any corrective action taken for the ESP. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]</p>
TREA 3	2	The Permittee must limit Mercury additive $\geq$ 1.5 pounds per hour 8-hour block average (as determined during the April 23 - 26, 2019 mercury and dioxin performance tests). Notwithstanding the previous sentence, upon the Commissioner's written notification that the emissions unit has demonstrated compliance under the conditions of a PCDD/PCDF or mercury performance test and prior to incorporation of the mercury/ PCDD/PCDF control additive feed rate into this permit, the Permittee must maintain the greater of the following: the additive feed rate determined during the most recent compliant mercury performance test or the most recent compliant PCDD/PCDF performance test. [Minn. R. 7011.1272]
TREA 3	5	The Permittee must maintain an 8-hour block average carbon feed rate at or above the highest average level established during the most recent dioxins/furans or mercury test for activated carbon absorption. [40 CFR 62.15145(c)]

SI Id	Sequence	Requirement
TREA 3	6	<p>The Permittee must evaluate total carbon usage (additive) for each calendar quarter. The total amount of carbon purchased and delivered to the municipal waste combustion plant must be at or above the required quarterly usage of carbon. The Permittee must evaluate required quarterly carbon usage on a municipal waste combustion unit basis for each individual municipal waste combustion unit at the plant. Calculate the required quarterly usage of carbon using the appropriate equation in 40 CFR Section 62.15390.</p> <p>During each calendar quarter, the Permittee must estimate the total additive used at the waste combustor in pounds or kilograms by two independent means as described in the following:</p> <ol style="list-style-type: none"> <li>1) the weight of additive delivered to the plant; and</li> <li>2) estimate the average additive mass feed rate in pounds per hour, or kilograms per hour, for each hour of operation for each unit, based on the activated carbon feeder auger rotation rate. Sum the results of the mass feed rates for all waste combustor units at the plant for the total number of hours of operation during the calendar quarter. [40 CFR 62.15145(d), Minn. R. 7011.1272, subp. 3(B)]</li> </ol>
TREA 3	7	<p>Records of average carbon feed rate for mercury and dioxins/furans (PCDD/PCDF) control. The Permittee must record and maintain the following:</p> <ol style="list-style-type: none"> <li>1) Average carbon feed rate (in kilograms or pounds per hour) during all stack tests for dioxins/furans and mercury emissions. Include supporting calculations in the records.</li> <li>2) For the operating parameter chosen to monitor carbon feed rate, average operating level during all stack tests for dioxins/furans and mercury emissions. Include supporting data that document the relationship between the operating parameter and the carbon feed rate.</li> <li>3) All 8-hour block average carbon feed rates in kilograms (pounds) per hour calculated from the monitored operating parameter. [40 CFR 62.15310(a), Minn. R. 7011.1272, subp. 3]</li> </ol>
TREA 3	8	<p>Records of low carbon feed rates. The Permittee must record and maintain the following:</p> <ol style="list-style-type: none"> <li>1) The calendar dates when the average carbon feed rate over an 8-hour block was less than the average carbon feed rates determined during the most recent stack test for dioxins/furans or mercury emissions (whichever has a higher feed rate).</li> <li>2) Reasons for the low carbon feed rates.</li> <li>3) Corrective actions the Permittee took or are taking to meet the 8-hour average carbon feed rate requirement.</li> <li>4) Document each time data is excluded from the calculation of average carbon feed rates and the reasons the data were excluded. [40 CFR 62.15310(b) and (d)]</li> </ol>
TREA 3	16	<p>The Permittee shall vent emissions from EQUI 19 to TREA 3 whenever EQUI 19 operates, and operate and maintain TREA 3 at all times that any emissions are vented to TREA 3. The Permittee shall document periods of non-operation of the control equipment TREA 3 whenever EQUI 19 is operating. [Minn. R. 7007.0800, subp. 2(A)]</p>
TREA 3	40	<p>The Permittee must operate and maintain TREA 3 in accordance with the Operation and Maintenance (O &amp; M) Plan. The Permittee must keep copies of the O &amp; M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]</p>
TREA 3	124	<p>Quarterly Inspections: At least once per calendar quarter, the Permittee must inspect the control equipment internal and external system components. The Permittee must maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4-5]</p>

SI Id	Sequence	Requirement
TREA 3	126	Annual Inspection: At least once per calendar year, the Permittee must conduct an internal inspection of the control device that includes all operating systems of the control device. The Permittee shall maintain a written record of the inspection and any action resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4-5]
TREA 4	2	The Permittee must limit Mercury additive $\geq 1.5$ pounds per hour 8-hour block average (as determined during the April 23 - 26, 2019 mercury and dioxin performance tests). Notwithstanding the previous sentence, upon the Commissioner's written notification that the emissions unit has demonstrated compliance under the conditions of a PCDD/PCDF or mercury performance test and prior to incorporation of the mercury/ PCDD/PCDF control additive feed rate into this permit, the Permittee must maintain the greater of the following: the additive feed rate determined during the most recent compliant mercury performance test or the most recent compliant PCDD/PCDF performance test. [Minn. R. 7011.1272]
TREA 4	5	The Permittee must maintain an 8-hour block average carbon feed rate at or above the highest average level established during the most recent dioxins/furans or mercury test for activated carbon absorption. [40 CFR 62.15145(c)]
TREA 4	6	<p>The Permittee must evaluate total carbon usage (additive) for each calendar quarter. The total amount of carbon purchased and delivered to the municipal waste combustion plant must be at or above the required quarterly usage of carbon. The Permittee has the to evaluate required quarterly carbon usage on a municipal waste combustion unit basis for each individual municipal waste combustion unit at the plant. Calculate the required quarterly usage of carbon using the appropriate equation in 40 CFR Section 62.15390.</p> <p>During each calendar quarter, the Permittee must estimate the total additive used at the waste combustor in pounds or kilograms by two independent means as described in the following:</p> <ol style="list-style-type: none"> <li>1) the weight of additive delivered to the plant; and</li> <li>2) estimate the average additive mass feed rate in pounds per hour, or kilograms per hour, for each hour of operation for each unit, based on the activated carbon feeder auger rotation rate. Sum the results of the mass feed rates for all waste combustor units at the plant for the total number of hours of operation during the calendar quarter. [40 CFR 62.15145(d), Minn. R. 7011.1272, subp. 3(B)]</li> </ol>
TREA 4	7	<p>Records of average carbon feed rate for mercury and dioxins/furans (PCDD/PCDF) control. The Permittee must record and maintain the following:</p> <ol style="list-style-type: none"> <li>1) Average carbon feed rate (in kilograms or pounds per hour) during all stack tests for dioxins/furans and mercury emissions. Include supporting calculations in the records.</li> <li>2) For the operating parameter chosen to monitor carbon feed rate, average operating level during all stack tests for dioxins/furans and mercury emissions. Include supporting data that document the relationship between the operating parameter and the carbon feed rate.</li> <li>3) All 8-hour block average carbon feed rates in kilograms (pounds) per hour calculated from the monitored operating parameter. [40 CFR 62.15310(a), Minn. R. 7011.1272, subp. 3]</li> </ol>



SI Id	Sequence	Requirement
TREA 4	8	<p>Records of low carbon feed rates. The Permittee must record and maintain the following:</p> <p>1) The calendar dates when the average carbon feed rate over an 8-hour block was less than the average carbon feed rates determined during the most recent stack test for dioxins/furans or mercury emissions (whichever has a higher feed rate).</p> <p>2) Reasons for the low carbon feed rates.</p> <p>3) Corrective actions the Permittee took or are taking to meet the 8-hour average carbon feed rate requirement.</p> <p>4) Document each time data is excluded from the calculation of average carbon feed rates and the reasons the data were excluded. [40 CFR 62.15310(b) and (d)]</p>
TREA 4	16	The Permittee shall vent emissions from EQUI 19 to TREA 3 whenever EQUI 19 operates, and operate and maintain TREA 3 at all times that any emissions are vented to TREA 3. The Permittee shall document periods of non-operation of the control equipment TREA 3 whenever EQUI 19 is operating. [Minn. R. 7007.0800, subp. 2(A)]
TREA 4	40	The Permittee must operate and maintain TREA 4 in accordance with the Operation and Maintenance (O & M) Plan. The Permittee must keep copies of the O & M Plan available onsite for use by staff and MPCA staff. [Minn. R. 7007.0800, subp. 14]
TREA 4	124	Quarterly Inspections: At least once per calendar quarter, the Permittee must inspect the control equipment internal and external system components. The Permittee must maintain a written record of the inspection and any corrective actions taken resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4-5]
TREA 4	126	Annual Inspection: At least once per calendar year, the Permittee must conduct an internal inspection of the control device that includes all operating systems of the control device. The Permittee shall maintain a written record of the inspection and any action resulting from the inspection. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 4-5]
TREA 5	27070	<p>The Permittee must limit the sodium bicarbonate feed rate <math>\geq</math> 41.0 pounds per hour, 1-hour average (as determined during the April 23 - 26, 2019 hydrogen chloride (HCl) performance test). The Permittee must keep records of the average hourly feed rate at all times EQUI 19 is in operation. The Permittee must use the same or similar reagent as used during the most recent compliant HCl performance test.</p> <p>Notwithstanding the previous sentence, upon the Commissioner's written notification that EQUI 19 has demonstrated compliance under the conditions of a HCl performance test and prior to incorporation of the sodium bicarbonate feed rate into this permit, the Permittee must maintain the sodium bicarbonate feed rate determined during the most recent compliant HCl performance test. [Minn. R. 7007.0800, subp. 2(A)]</p>
TREA 5	27080	The Permittee shall vent emissions from EQUI 19 to TREA 5 whenever EQUI 19 operates, and operate and maintain TREA 5 at all times that any emissions are vented to TREA 5. The Permittee shall document periods of non-operation of the control equipment TREA 5 whenever EQUI 19 is operating. [Minn. R. 7007.0800, subp. 2(A)]
TREA 5	27290	<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if the scrubber or any of its components are found during the inspections to need repair.</p> <p>Corrective actions shall include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the Operation and Maintenance (O &amp; M) Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for each scrubber. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]</p>

SI Id	Sequence	Requirement
TREA 5	27291	<p>The Permittee shall maintain each piece of control equipment according to the control equipment manufacturer's specifications, and shall:</p> <p>A. maintain an inventory of spare parts that are subject to frequent replacement, as required by the manufacturing specification or documented in records under items H and I;</p> <p>B. train staff on the operation and monitoring of control equipment and troubleshooting, and train and require staff to respond to indications of malfunctioning equipment;</p> <p>C. thoroughly inspect all control equipment at least annually, or as required by the manufacturing specification;</p> <p>D. inspect monthly, or as required by the manufacturing specification, components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts;</p> <p>E. inspect quarterly, or as required by the manufacturing specification, components that are not subject to wear including structural components, housings, ducts, and hoods;</p> <p>F. check daily, or as required by the manufacturing specification, monitoring equipment, for example: pressure gauges, chart recorders, temperature indicators, and recorders;</p> <p>G. calibrate (or replace) annually, or as required by the manufacturing specification, all monitoring equipment;</p> <p>H. maintain a record of activities conducted in items A to G consisting of the activity completed, the date the activity was completed, and any corrective action taken; and</p> <p>I. maintain a record of parts replaced, repaired, or modified for the previous five years. [Minn. R. 7011.0075, subp. 2]</p>
TREA 6	27070	<p>The Permittee must limit the sodium bicarbonate feed rate <math>\geq 41.0</math> pounds per hour, 1-hour average (as determined during the April 23 - 26, 2019 hydrogen chloride (HCl) performance test). The Permittee must keep records of the average hourly feed rate at all times EQUI 1 is in operation. The Permittee must use the same or similar reagent as used during the most recent compliant HCl performance test.</p> <p>Notwithstanding the previous sentence, upon the Commissioner's written notification that EQUI 1 has demonstrated compliance under the conditions of a HCl performance test and prior to incorporation of the sodium bicarbonate feed rate into this permit, the Permittee must maintain the sodium bicarbonate feed rate determined during the most recent compliant HCl performance test. [Minn. R. 7007.0800, subp. 2(A)]</p>
TREA 6	27080	<p>The Permittee shall vent emissions from EQUI 1 to TREA 6 whenever EQUI 1 operates, and operate and maintain TREA 6 at all times that any emissions are vented to TREA 6. The Permittee shall document periods of non-operation of the control equipment TREA 6 whenever EQUI 1 is operating. [Minn. R. 7007.0800, subp. 2(A)]</p>
TREA 6	27290	<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if the scrubber or any of its components are found during the inspections to need repair.</p> <p>Corrective actions shall include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the Operation and Maintenance (O &amp; M) Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for each scrubber. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2(A), Minn. R. 7007.0800, subp. 5]</p>

SI Id	Sequence	Requirement
TREA 6	27291	<p>The Permittee shall maintain each piece of control equipment according to the control equipment manufacturer's specifications, and shall:</p> <ul style="list-style-type: none"> <li>A. maintain an inventory of spare parts that are subject to frequent replacement, as required by the manufacturing specification or documented in records under items H and I;</li> <li>B. train staff on the operation and monitoring of control equipment and troubleshooting, and train and require staff to respond to indications of malfunctioning equipment;</li> <li>C. thoroughly inspect all control equipment at least annually, or as required by the manufacturing specification;</li> <li>D. inspect monthly, or as required by the manufacturing specification, components that are subject to wear or plugging, for example: bearings, belts, hoses, fans, nozzles, orifices, and ducts;</li> <li>E. inspect quarterly, or as required by the manufacturing specification, components that are not subject to wear including structural components, housings, ducts, and hoods;</li> <li>F. check daily, or as required by the manufacturing specification, monitoring equipment, for example: pressure gauges, chart recorders, temperature indicators, and recorders;</li> <li>G. calibrate (or replace) annually, or as required by the manufacturing specification, all monitoring equipment;</li> <li>H. maintain a record of activities conducted in items A to G consisting of the activity completed, the date the activity was completed, and any corrective action taken; and</li> <li>I. maintain a record of parts replaced, repaired, or modified for the previous five years. [Minn. R. 7011.0075, subp. 2]</li> </ul>