

Draft
Air Individual Permit
Major Amendment
05300834-102

Permittee: GE Osmonics Inc
Facility name: GE Osmonics Inc
5951 Clearwater Dr
Minnetonka, MN 55343
Hennepin County

Operating permit issuance date: December 4, 2007

Expiration date: This permit does not expire.
* All Title I Conditions do not expire

Major Amendment: [Amendment Issue Date]

Permit characteristics: State; Limits to avoid Part 70/ Limits to avoid NSR

The emission units, control equipment and emission stacks at the stationary source authorized in this permit amendment are as described in the Permit Applications Table.

This permit amendment supersedes Air Emission Permit No. 05300834 - 005 and authorizes the Permittee to operate and modify the stationary source at the address listed above unless otherwise noted in the permit. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the SIP under 40 CFR § 52.1220 and as such are enforceable by U.S Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

Signature: []

This document has been electronically signed.

for Don Smith, P.E., Manager
Air Quality Permits Section
Industrial Division

for the Minnesota Pollution Control Agency

Table of Contents

	Page
1. Permit applications table	3
2. Where to send submittals.....	3
3. Facility description	4
4. Summary of subject items	6
5. Limits and other requirements	10
6. Submittal/action requirements	63
7. Appendices.....	69
Appendix A. Insignificant Activities and General Applicable Requirements.....	69

1. Permit applications table

Subsequent permit applications:

Title description	Application receipt date	Action number
Major Amendment	09/30/2014	05300834- 005
State Permit	01/09/2004	05300834- 003
Administrative Amendment	02/12/2010	
Major Amendment	04/01/2015	
Administrative Amendment	04/23/2010	
Major Amendment	04/11/2014	05300834- 004
Major Amendment	04/24/2015	
Major Amendment	02/13/2015	
Administrative Amendment	06/20/2014	
Major Amendment	09/07/2016	05300834-103

2. Where to send submittals

Send submittals that are required to be submitted to the EPA regional office to:

Chief Air Enforcement
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by Minn. R. 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

Send any application for a permit or permit amendment to:

Fiscal Services – 6th Floor
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Document Coordinator notices of:

- a. Accumulated insignificant activities
- b. Installation of control equipment
- c. Replacement of an emissions unit, and
- d. Changes that contravene a permit term

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Or

Email a signed and scanned PDF copy to:

submitstacktest.pca@state.mn.us

(for submittals related to stack testing)

AQRoutineReport.PCA@state.mn.us

(for other compliance submittals)

(See complete email instructions in "Routine Air Report Instructions Letter" at

<http://www.pca.state.mn.us/nwqh472>.)

3. Facility description

The GE Osmonics Inc (Facility) is located at 5951 Clearwater Drive in Minnetonka, Hennepin County, Minnesota. The Facility produces a variety of water and other fluids purification and treatment equipment. The Facility operations include the manufacture of various separation membranes and other fluid system components. These processes result in air emissions of mainly VOC and HAPs primarily as a result of solvent release from several membrane coating lines or equipment painting as a result of systems assembly. Finished products include flat sheet membrane, membrane elements, filters, and water purification systems and equipment.

Amendment Description:

Permit Action 004:

Permit action 004 was for a Major Amendment. This permit allowed for construction of the Coater 9 Solvent Sparging Unit (EU029) at the facility. The new unit emits VOC and is vented through the RTO (CE001) for control. After the addition of this unit, the facility remains under the permit's current cap to remain a state permit.

Permit action 004 also incorporated Coater 7 (EU027) as a new emission unit. The facility added a new membrane coating line, which included a new coater and a new coating mix vessel (Coater 7 & Mixing, EU 027). Both Coater 7 and the mixing vessel are subject to New Source Performance Standards Subpart VVV. Coater 7 will comply with Subpart VVV by removing greater than 90 percent of potential Volatile Organic Compound (VOC) emissions using a water bath. A small fraction of VOC is vented to the existing Regenerative Thermal Oxidizer (RTO) (CE 001) to keep the facility below the voluntary cap for Hazardous Air Pollutants (HAPs). The coating mix vessel is enclosed and vented to the RTO to comply with Subpart VVV.

Permit action 004 also incorporated Paint Booth 2 (EU028) as a new emission unit. The facility added a new paint booth with associated paint booth cleaning (EU 028 Paint Booth 2 & Solvent Cleaning), which includes a new particulate filter (CE 003) and stack vent (SV 032). The existing paint booth (EU 009) is grouped with the new paint booth (EU 028) to form a new group (GP 007), while maintaining the permit requirements and emission limits of the existing paint booth (EU 009). This resulted in no emission increases at the facility, because emissions are capped to stay under the major HAPs threshold.

In addition to the Major Amendment, the following changes to the permit were also made through permit action 004:

- EU 004 and 005 R&D units were removed from the permit, as they have been removed from the facility.
- The organization of the VOC and HAP limits was altered to reflect current MPCA practice.
- NESHAP requirements for the two Generators (EU007 and EU008) on site were incorporated into the permit.
- Three chemical storage tanks were added to the list of insignificant activities.

Permit Action 005:

This permit action is for a Major Amendment with and Administrative amendment rolled in. The permit allows for the construction of two new coating lines.

Coater 10 (EU 030, EU 031, EU 032, EU 033) will include three dryers that combust natural gas and have a combined heat input capacity of 5.4 MMBtu/hr. The primary source of emissions from this unit is natural gas combustion. There is also a small amount (less than 0.2 tpy) of VOC/HAP emitted from the coating activities.

The new coating line, Coater 11 (EU 036, EU 037, EU 038), will be accompanied by new mixing equipment (EU 035). Emissions from the mixing equipment and the majority of the emissions from the coating line will be routed to a new regenerative thermal oxidizer (CE 007, EU 034). The new equipment is subject to 40 CFR pt. 60 subp. VVV. The facility will continue to operate within the emission caps required by PER 004.

Permit action 102:

Permit action 102 is for a Major Amendment. This permit allowed for construction of the Thin Film Pilot Coater line and the Polysulfone Pilot Coater line at the facility. Both coater lines are restricted to operating less than 1500 hours per year. The Polysulfone Pilot Coater line will be controlled by a series of water bath tanks (TREA 9) for control. After the addition of these units, the facility remains under the permit's current cap to remain a state permit.

In a previous permit action (05300834-004), the facility added a new membrane coating line which included a new coater and a new coating mix vessel (Spray Booth/Coating Line - Coater 7 & Mixing Coater 7 & Mixing, EQUI 32). This new line was controlled by a series of water bath tanks. Both Coater 7 and the mixing vessel are subject to NSPS-Subpart VVV. Coater 7 will comply with Subpart VVV by removing greater than 90% of potential VOC emissions using a series of water bath tanks (TREA 8). In permit action 05300834-004, Subpart VVV alternative means of emission limitation requirements were not incorporated into the permit for Coater 7 & Mixing. At that time, EPA's approval of the alternative means of emission limitation had not been requested. For this permit action 05300834-102, EPA's approval has been granted, as provided in the letter dated July 27, 2017. EPA's alternative means of emission limitation requirements for the water bath tanks are incorporated into the current permit action.

In addition to the Major Amendment, the following changes to the permit were also made through permit action 102:

- Updated Total Facility requirements to reflect current MPCA templates and standard citation formatting.

4. Summary of subject items

SI ID: Description	Relationship Type	Related SI ID: Description
TFAC 1: GE Osmonics Inc		
ACTV 4: All IAs		
COMG 1: Polypropylene Processing Lines	has members	EQUI 15, EQUI 16, EQUI 17, EQUI 18, EQUI 19, EQUI 21, STRU 33, STRU 34, STRU 35, STRU 36, STRU 37, STRU 38, STRU 39
COMG 2: Coater 9 Dryers	has members	EQUI 2, EQUI 5, STRU 25, STRU 27
COMG 4: Dryers	has members	EQUI 23, EQUI 24, EQUI 25, EQUI 27, EQUI 54, EQUI 55, STRU 2, STRU 3, STRU 4, STRU 6, STRU 11, STRU 40, STRU 41
COMG 5: VOC Limit	has members	EQUI 1, EQUI 2, EQUI 3, EQUI 4, EQUI 5, EQUI 6, EQUI 7, EQUI 8, EQUI 11, EQUI 12, EQUI 13, EQUI 14, EQUI 15, EQUI 16, EQUI 17, EQUI 18, EQUI 19, EQUI 20, EQUI 21, EQUI 27, EQUI 28, EQUI 29, EQUI 30, EQUI 31, EQUI 32, EQUI 33, EQUI 34, EQUI 54, EQUI 55, EQUI 56, EQUI 57
COMG 6: HAP Limit	has members	EQUI 1, EQUI 2, EQUI 3, EQUI 4, EQUI 5, EQUI 6, EQUI 7, EQUI

SI ID: Description	Relationship Type	Related SI ID: Description
		8, EQUI 11, EQUI 12, EQUI 15, EQUI 16, EQUI 17, EQUI 18, EQUI 19, EQUI 20, EQUI 21, EQUI 27, EQUI 28, EQUI 29, EQUI 30, EQUI 31, EQUI 32, EQUI 33, EQUI 57
COMG 7: Coater 11	has members	EQUI 28, EQUI 29, EQUI 30, EQUI 31, STRU 6, STRU 7, STRU 11
COMG 8: Hot Water Boilers	has members	EQUI 3, EQUI 4, STRU 26
COMG 9: Non-VVV coaters	has members	EQUI 7, STRU 9, STRU 10, STRU 18, STRU 19, STRU 20, STRU 21
COMG 10: Subpart VVV - Affected units (< 95 Mg/yr VOC used/unit)	has members	EQUI 8, EQUI 56, EQUI 57, STRU 22, STRU 23, STRU 24, STRU 40, STRU 41, STRU 42
COMG 11: Paint Booths	has members	EQUI 12, EQUI 33, STRU 14, STRU 31, TREA 1, TREA 3
EQUI 1: Phase I Generator		
EQUI 2: Coater 9 Dryer Zones		
EQUI 3: Coater 9 Hot Water Boiler 1		
EQUI 4: Coater 9 Hot Water Boiler 2		
EQUI 5: Coater 9 Final Dryer Zones		
EQUI 6: RTO		
EQUI 7: Coater 2	sends to	STRU 10: Coater #2 Solvent Dip Tanks Exhaust

SI ID: Description	Relationship Type	Related SI ID: Description
		2
EQUI 7: Coater 2	sends to	STRU 18: Coater #2 Mixing Room Exhaust
EQUI 7: Coater 2	sends to	STRU 19: Coater #2 Coating Enclosure Exhaust
EQUI 7: Coater 2	sends to	STRU 20: Coater #2 Recirculated Air Exhaust
EQUI 7: Coater 2	sends to	STRU 21: Coater #2 Dryer Exhaust
EQUI 7: Coater 2	sends to	STRU 9: Coater #2 Solvent Tanks Exhaust 1
EQUI 8: Coater 8	sends to	STRU 22: Coater #8 Mixing Exhaust
EQUI 8: Coater 8	sends to	STRU 23: Coater #8 Coating Enclosure Exhaust
EQUI 8: Coater 8	sends to	STRU 24: Coater #8 Dryer Exhaust
EQUI 11: Coater 9	sends to	STRU 25: Coater 9 Enclosure Exhaust
EQUI 11: Coater 9	sends to	STRU 26: Coater 9 Dryer #1 Exhaust
EQUI 11: Coater 9	sends to	STRU 27: Coater 9 Dryer #2 Exhaust
EQUI 11: Coater 9	sends to	STRU 28: Coater 9 Dryer #3 Exhaust
EQUI 12: Equipment Paint Booth & Solvent Cleaning	sends to	STRU 31: Paint Booths Exhaust
EQUI 12: Equipment	is	TREA 3: Mat or

SI ID: Description	Relationship Type	Related SI ID: Description
Paint Booth & Solvent Cleaning	controlled by	Panel Filter
EQUI 13: IPA Vat		
EQUI 14: IPA Cleaning & Testing		
EQUI 15: Polypropylene Processing Line 1		
EQUI 16: Polypropylene Processing Line 2		
EQUI 17: Polypropylene Processing Line 3		
EQUI 18: Polypropylene Processing Line 4		
EQUI 19: Polypropylene Processing Line 5		
EQUI 20: Phase III Generator		
EQUI 21: Polypropylene Processing Line 6		
EQUI 23: Spray Booth/Coating Line - Coater 10 Pre-dryer combustion	sends to	STRU 2: Coater 10 Pre-Dryer
EQUI 24: Spray Booth/Coating Line - Coater 10 Dryer 1 combustion	sends to	STRU 3: Coater 10 Dryer 1
EQUI 25: Spray Booth/Coating Line - Coater 10 Dryer 2 combustion	sends to	STRU 4: Coater 10 Dryer 2
EQUI 26: Spray Booth/Coating Line - Coater 10 Process		
EQUI 27: RTO2	sends to	STRU 6: RTO2
EQUI 28: Spray Booth/Coating Line - Coater 11- Mixing	sends to	STRU 6: RTO2
EQUI 28: Spray Booth/Coating Line - Coater 11- Mixing	is controlled by	TREA 6: Thermal Oxidizer
EQUI 29: Spray Booth/Coating Line - Coater 11 - Process	sends to	STRU 6: RTO2
EQUI 29: Spray Booth/Coating Line - Coater 11 - Process	is controlled by	TREA 6: Thermal Oxidizer
EQUI 30: Spray Booth/Coating Line - Coater 11 - Post	is controlled by	EQUI 27: RTO2

SI ID: Description	Relationship Type	Related SI ID: Description
Treatment		
EQUI 30: Spray Booth/Coating Line - Coater 11 - Post Treatment	sends to	STRU 6: RTO2
EQUI 31: Spray Booth/Coating Line - Coater 11 - Final Dryer		
EQUI 32: Spray Booth/Coating Line - Coater 7 & Mixing	sends to	STRU 13: RTO
EQUI 32: Spray Booth/Coating Line - Coater 7 & Mixing	is controlled by	TREA 2: Thermal Oxidizer
EQUI 32: Spray Booth/Coating Line - Coater 7 & Mixing	is controlled by	TREA 8: Coater 7 Water Bath Tanks
EQUI 33: Spray Booth/Coating Line - Paint Booth 2 and Solvent Cleaning		
EQUI 34: Separation Equipment - Coater 9 Solvent Sparging System	sends to	STRU 13: RTO
EQUI 34: Separation Equipment - Coater 9 Solvent Sparging System	is controlled by	TREA 2: Thermal Oxidizer
EQUI 54: Thin Film Pilot Coater Dryer #1	sends to	STRU 40: Thin Film Pilot Coater Dryer #1 Exhaust
EQUI 55: Thin Film Pilot Coater Dryer #2	sends to	STRU 41: Thin Film Pilot Coater Dryer #2 Exhaust
EQUI 56: Thin Film Pilot Coater Coating Process	sends to	EQUI 54: Thin Film Pilot Coater Dryer #1
EQUI 57: Polysulfone Pilot Coating Process	sends to	STRU 42: Polysulfone Pilot Coating Process
STRU 1: Coater 7 (Placeholder)		
STRU 2: Coater 10 Pre-Dryer		
STRU 3: Coater 10 Dryer 1		
STRU 4: Coater 10 Dryer		

SI ID: Description	Relationship Type	Related SI ID: Description
2		
STRU 5: Coater 10 Process	receives from	EQUI 26: Spray Booth/Coating Line - Coater 10 Process
STRU 6: RTO2		
STRU 7: Coater 11 - Post Treatment		
STRU 9: Coater #2 Solvent Tanks Exhaust 1		
STRU 10: Coater #2 Solvent Dip Tanks Exhaust 2		
STRU 11: Coater 11 - Final Dryer	receives from	EQUI 31: Spray Booth/Coating Line - Coater 11 - Final Dryer
STRU 12: Coater 7	receives from	EQUI 33: Spray Booth/Coating Line - Paint Booth 2 and Solvent Cleaning
STRU 13: RTO	receives from	EQUI 2: Coater 9 Dryer Zones
STRU 14: Paint Booth 2		
STRU 16: Final Dryer Coater 9	receives from	EQUI 5: Coater 9 Final Dryer Zones
STRU 17: Hot Water Boiler Exhaust	receives from	EQUI 3: Coater 9 Hot Water Boiler 1
STRU 17: Hot Water Boiler Exhaust	receives from	EQUI 4: Coater 9 Hot Water Boiler 2
STRU 18: Coater #2 Mixing Room Exhaust		
STRU 19: Coater #2 Coating Enclosure Exhaust		
STRU 20: Coater #2 Recirculated Air Exhaust		
STRU 21: Coater #2 Dryer Exhaust		
STRU 22: Coater #8 Mixing Exhaust		
STRU 23: Coater #8 Coating Enclosure Exhaust		

SI ID: Description	Relationship Type	Related SI ID: Description
STRU 24: Coater #8 Dryer Exhaust		
STRU 25: Coater 9 Enclosure Exhaust	receives from	EQUI 6: RTO
STRU 26: Coater 9 Dryer #1 Exhaust		
STRU 27: Coater 9 Dryer #2 Exhaust		
STRU 28: Coater 9 Dryer #3 Exhaust		
STRU 29: Phase I Emergency Generator Exhaust	receives from	EQUI 1: Phase I Generator
STRU 30: Phase III Emergency Generator Exhaust	receives from	EQUI 20: Phase III Generator
STRU 31: Paint Booths Exhaust		
STRU 32: IPA Vat Exhaust	receives from	EQUI 13: IPA Vat
STRU 33: Polypropylene Processing Lines 1 & 2 Exhaust	receives from	EQUI 15: Polypropylene Processing Line 1
STRU 33: Polypropylene Processing Lines 1 & 2 Exhaust	receives from	EQUI 16: Polypropylene Processing Line 2
STRU 34: Polypropylene Processing Lines 1 & 2 Exhaust	receives from	EQUI 15: Polypropylene Processing Line 1
STRU 34: Polypropylene Processing Lines 1 & 2 Exhaust	receives from	EQUI 16: Polypropylene Processing Line 2
STRU 35: Polypropylene Processing Lines 1 & 2 Exhaust	receives from	EQUI 15: Polypropylene Processing Line 1
STRU 35: Polypropylene Processing Lines 1 & 2 Exhaust	receives from	EQUI 16: Polypropylene Processing Line 2
STRU 36: Polypropylene Processing Line 3 Exhaust	receives from	EQUI 17: Polypropylene Processing

SI ID: Description	Relationship Type	Related SI ID: Description
		Line 3
STRU 37: Polypropylene Processing Line 4 Exhaust	receives from	EQUI 18: Polypropylene Processing Line 4
STRU 38: Polypropylene Processing Line 5 Exhaust	receives from	EQUI 19: Polypropylene Processing Line 5
STRU 39: Polypropylene Processing Line 6 Exhaust	receives from	EQUI 21: Polypropylene Processing Line 6
STRU 40: Thin Film Pilot Coater Dryer #1 Exhaust		
STRU 41: Thin Film Pilot Coater Dryer #2 Exhaust		
STRU 42: Polysulfone Pilot Coating Process		
TREA 1: Mat or Panel Filter	controls	EQUI 33: Spray Booth/Coating Line - Paint Booth 2 and Solvent Cleaning
TREA 2: Thermal Oxidizer	controls	EQUI 2: Coater 9 Dryer Zones
TREA 3: Mat or Panel Filter		
TREA 4: Catalytic Oxidizer	controls in parallel	EQUI 20: Phase III Generator
TREA 5: Catalytic Oxidizer	controls in parallel	EQUI 20: Phase III Generator
TREA 6: Thermal Oxidizer		
TREA 8: Coater 7 Water Bath Tanks		
TREA 9: Polysulfone Pilot Line Coater Water Bath Tanks		

5. Limits and other requirements

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
TFAC 1	05300834	GE Osmonics Inc	
	5.1.1		This permit establishes limits on the facility to keep it a minor source under New Source Review and NESHAPS. The Permittee cannot make any change at the source that would make the source a major source under New Source Review and NESHAPS until a permit amendment has been issued. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments. [Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21, Title I Condition: Avoid major source under 40 CFR 63.2]
	5.1.2		The Permittee is authorized to install and operate EQUI 27, EQUI 28, EQUI 29, EQUI 30, and EQUI 31 at any time within 5 years of issuance of Air Emissions Permit No. 05300834-005. The units shall meet all the requirements of this permit (e.g. COMG 7). [Minn. R. 7007.0800, subp. 2]
	5.1.3		Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in: Appendix A - Insignificant Activities and Applicable Requirements; Appendix B - Equations used for Permit Cap; Appendix C - Maximum Material Contents and Application Rates; Appendix D - Equations for Carbon Monoxide Performance Testing; and Appendix E - Equation for NSPS Subpart VVV. [Minn. R. 7007.0800, subp. 2]
	5.1.4		PERMIT SHIELD: Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements. This permit shall not alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance. [Minn. R. 7007.1800, (A)(2)]
	5.1.5		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 7009.0080. Compliance shall be demonstrated upon written request by the MPCA. [Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9]
	5.1.6		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]
	5.1.7		Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			operated. [Minn. R. 7007.0800, subp. 16(J), Minn. R. 7007.0800, subp. 2]
	5.1.8		Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 16(J)]
	5.1.9		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]
	5.1.10		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]
	5.1.11		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]
	5.1.12		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)]
	5.1.13		The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16. [Minn. R. 7007.0800, subp. 16]
	5.1.14		Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in this permit. [Minn. R. ch. 7017]
	5.1.15		Performance Test Notifications and Submittals: Performance Test Notification and Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test The Notification, Test Plan, and Test Report must be submitted in a format specified by the commissioner. [Minn. R. 7017.2017, Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2]
	5.1.16		Limits set as a result of a performance test (conducted before or after

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>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>
	5.1.17		<p>Monitoring Equipment Calibration - The Permittee shall either:</p> <ol style="list-style-type: none"> 1. Calibrate or replace required monitoring equipment every 12 months; or 2. Calibrate at the frequency stated in the manufacturer's specifications. <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>
	5.1.18		<p>Material Content. VOC, HAPs, and Solids (PM, PM<10 microns, and PM<2.5 microns) contents in coating materials shall be determined by the Safety Data Sheet (SDS) provided by the supplier for each material used. If a material content range is given on the SDS, the highest number in the range shall be used in all compliance calculations. If information is provided in the Regulatory Section of the SDS, the highest number in the range of that section may be used.</p> <p>Other alternative methods approved by the MPCA may be used to determine the VOC, HAPs, and solids contents. The Commissioner reserves the right to require the Permittee to determine the VOC, HAP, and solids contents of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the SDS. [Minn. R. 7007.0800, subps. 4-5]</p>
	5.1.19		<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>
	5.1.20		<p>Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A). [Minn. R. 7007.0800, subp. 5(C)]</p>
	5.1.21		<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),</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			including records of the emissions resulting from those changes. [Minn. R. 7007.0800, subp. 5(B)]
	5.1.22		If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. These records shall be kept for a period of five years from the date that the change was made. 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]
	5.1.23		<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>
	5.1.24		<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>
	5.1.25		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]
	5.1.26		<p>Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description:</p> <ol style="list-style-type: none"> 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected;

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and</p> <p>5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation. [Minn. R. 7019.1000, subp. 1]</p>
	5.1.27		<p>Relocation Notification Form: due 48 hours before change in location. Submit notification on a form approved by the Commissioner. [Minn. R. 7007.0800, subp. 12(C)]</p>
	5.1.28		<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 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. [Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1150 - 7007.1500]</p>
	5.1.29		<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>
	5.1.30		<p>Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance, to be submitted on a form approved by the Commissioner. [Minn. R. 7019.3000-7019.3100]</p>
	5.1.31		<p>Emission Fees: due 30 days after receipt of an MPCA bill. [Minn. R. 7002.0005-7002.0095]</p>
	5.1.32		<p>Emission Unit Labeling: The Permittee shall permanently affix a unique number to the coating lines for tracking purposes. The number shall correlate the unit to the appropriate EQUI and COMG numbers used in this permit. The number can be affixed by placard, stencil, or other means. The number shall be maintained so that it is readable and visible at all times from a safe distance. 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, 2]</p>
	5.1.33		<p>Equipment Inventory List: The Permittee shall maintain a well-written list of each significant emission unit on site. The list shall include the type of equipment, manufacturer and model number (if available), unique ID number (assigned and affixed as required by this permit), the corresponding control equipment number used to control the unit (if applicable), and the dates of initial startup, modification, and commencement of construction.</p> <p>The Permittee shall update the list to include any replaced, modified, or added equipment prior to making the pre-authorized change. For equipment that is replaced, modified, or added, the Permittee shall</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>complete an evaluation as detailed below and shall include a record of the evaluation as part of the equipment list.</p> <p>Prior to making the change, the Permittee shall determine and keep a record of the following:</p> <ol style="list-style-type: none"> 1. Evaluate whether the permit contains all applicable requirements that would apply to the planned change, and 2. Re-evaluate whether the facility will continue to comply with all permit limits (e.g. 90 tpy VOC limit, 9.0/22.5 tpy HAPs limits, Minn. R. Ch. 7022 standard, etc.) <p>If the answer to either is "no", the Permittee shall apply for and obtain the appropriate permit amendment as required by Minn. R. Ch. 7007. These rule requirements may require that the permit amendment be issued prior to making the proposed change. [Minn. R. 7007.0800, 2]</p>
COMG 1	GP002	Polypropylene Processing Lines	
	5.2.1		Particulate Matter <= 0.3 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. This limit applies separately to each processing line. [Minn. R. 7011.0715, subp. 1(A)]
	5.2.2		Opacity: less than or equal to 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]
COMG 2	GP003	Coater 9 Dryers	
	5.3.1		Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. This limit applies separately to each dryer zone group. [Minn. R. 7011.0610, subp. 1(A)(1)]
	5.3.2		Opacity: less than 20 percent opacity, except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent. [Minn. R. 7011.0610, subp. 1(A)(2)]
	5.3.3		Allowable Fuels: Natural gas only. [Minn. R. 7005.0100, subp. 35a]
COMG 4	GP010	Dryers	
	5.4.1		Particulate Matter <= 0.4 pounds per million Btu heat input. [Minn. R. 7011.0515, subp. 1]
	5.4.2		Sulfur Dioxide < 2.0 pounds per million Btu heat input. [Minn. R. 7011.0515, subp. 1]
	5.4.3		Opacity <= 20 percent opacity. [Minn. R. 7011.0515, subp. 2]
	5.4.4		Fuel type: Natural gas only. [Minn. R. 7007.0800, 2]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.4.5		<p>Fuel Usage Recordkeeping:</p> <p>Record COG 4 natural gas usage on a monthly basis based on billing records or meter readings. If based on meter readings, each reading shall be taken on the last day of the month. [Minn. R. 7007.0800, 4 and 5]</p>
COMG 5	GP007	VOC Limit	
	5.5.1		<p>Volatile Organic Compounds <= 90 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 in Appendix B. This includes all VOC emissions included in COMG 5.</p> <p>All emission units or stacks added to COMG 5 as allowed in this permit shall be included in this calculation. VOC contents for each VOC-containing material shall be determined as described under the Material Content requirement in COMG 5. The calculation of VOCs used may take into account recovered/recycled VOCs as described under the Waste Credit requirement in COMG 5. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]</p>
	5.5.2		<p>All VOC-emitting equipment at the Facility is subject to this limit except for insignificant activities. If the Permittee replaces any existing VOC-emitting equipment, adds new VOC-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 5 and those listed at the Total Facility Level. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. The Permittee is not required to complete VOC calculations described in Minn. R. 7007.1200, subp. 2. A permit amendment will still be needed regardless of the emissions increase if the change will be subject to a new applicable requirement or requires revisions to the limits or monitoring and recordkeeping in this permit. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]</p>
	5.5.3		<p>VOC PreCap: If the Permittee replaces any non-combustion VOC-emitting equipment, adds new non-combustion VOC-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 5. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. For changes described in this item, the Permittee is not required to complete VOC calculations described in Minn. R. 7007.1200, subp. 2. A permit amendment will still be needed regardless of the emissions increase if the change will be subject to a new applicable requirement or requires revisions to the limits or monitoring and recordkeeping in this permit. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7007.3000, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.5.4		Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings and other VOC containing materials used at the facility. This shall be based on written usage logs, gauge or flowmeter readings, or delivery records. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i), Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.5.5		Monthly Recordkeeping -- VOC Emissions. By the 15th of the month, the Permittee shall calculate and record the following: 1. The total usage of VOC-containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2. The VOC emissions for the previous month using Equation 1 of Appendix B. 3. The 12-month rolling sum VOC emissions for the previous 12-month period by summing the monthly VOC emissions data for the previous 12 months. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.5.6		Maximum Contents of Materials: The Permittee assumed certain worst-case contents of materials when determining the short-term potential to emit of units in COMG 5. These assumptions are listed in Appendix C of this permit. Changing to a material that has a higher content of any of the given pollutants is considered a change in method of operation that must be evaluated under Minn. R. 7007.1200, subp. 3 to determine if a permit amendment or notification is required under Minn. R. 7007.1150. [Minn. R. 7005.0100, subp. 35a]
	5.5.7		Material Content Records: The Permittee shall keep a current copy of information provided by materials suppliers or manufacturers for each VOC-containing material used. This includes MSDSs, COAs, and test data used to determine the solids and VOC content and density for each VOC-containing material. If the Permittee conducted testing to determine the pollutant content or density, the Permittee must keep a copy of the complete test report. If information was used that was provided by the manufacturer or supplier of the material that was based on testing, the Permittee must keep the COA provided by the manufacturer or supplier. The Permittee is not required to obtain the test report or other supporting documentation from the manufacturer or supplier. [Minn. R. 7007.0800, subps. 4-5]
	5.5.8		Waste Content: If the Permittee elects to obtain credit for VOC shipped

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>in waste materials, the Permittee shall either use item 1. or 2. to determine the VOC content for each credited shipment.</p> <p>1. The Permittee shall follow the Waste Sampling requirements specified in this permit to determine the weight content of VOC, excluding water. [Minn. R. 7007.0800, subps. 4-5]</p>
	5.5.9		<p>2. The Permittee may use supplier data for raw materials to determine the VOC, contents of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials.</p> <p>The content data for each waste stream shall be used in calculations required by this permit for all relevant shipments or all shipments in the calendar quarter, if applicable, following the sample analysis. For example, if quarterly sampling applies, sample results from January shall be used for all waste relevant shipments in January, February, and March, and April results shall be used in April, May, and June, etc. [Minn. R. 7007.0800, subps. 4-5]</p>
	5.5.10		<p>Waste Sampling: The Permittee or the company receiving the waste shall analyze a sample of the relevant stream using an EPA or ASTM reference method, a gas chromatograph, or other method approved by the Commissioner, to determine the weight content of the relevant pollutant for which credit is taken (i.e., VOC, total, or individual HAPs) according to the following schedule:</p> <p>1. A composite sample of each waste shipment of the relevant waste stream, or</p> <p>2. A composite sample from all shipments of the relevant waste stream at least once per calendar quarter, if after twelve consecutive samples have been completed for the given waste stream, the relevant pollutant contents from each consecutive sample varies by less than or equal to 3.0%. If any two consecutive samples of the given waste stream vary by greater than 3.0%, then the sampling frequency for the given waste stream reverts back to every shipment. The Permittee shall keep copies of all test reports. [Minn. R. 7007.0800, subps. 4-5]</p>
	5.5.11		<p>Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations:</p> $\text{VOC (tons/month)} = V - W$ $V = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + (C3 \times D3) + \dots$ <p>where:</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>V = total VOC used in tons/month; A# = amount of each VOC-containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC-containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.</p> <p>A more detailed equation can be found in Appendix B of the permit. [Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]</p>
COMG 6	GP008	HAP Limit	
	5.6.1		<p>HAPs - Total \leq 22.5 tons per year 12-month rolling sum to be calculated by the 15th day of each month for the previous 12-month period. HAP contents for each HAP-containing material shall be determined as described under the Material Content requirement below. The calculation of HAPs used may take into account recovered/recycled HAPs as described under the Waste Credit requirement below. [Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]</p>
	5.6.2		<p>HAPs - Single \leq 9.0 tons per year 12-month rolling sum to be calculated by the 15th day of each month for the previous 12-month period. Individual HAP contents for each HAP-containing material shall be determined as described under the Material Content requirement below. The calculation of HAPs used may take into account recovered/recycled HAPs as described under the Waste Credit requirement below. [Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]</p>
	5.6.3		<p>All HAP-emitting equipment at the Facility except for insignificant activities are covered by this limit. If the Permittee replaces any existing HAP-emitting equipment or adds new HAP-emitting equipment, such equipment is subject to this permit limit as well as all of the requirements of COMG 6. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. A permit amendment may be needed if the change will be subject to a new applicable requirement or requires revisions to limits or the monitoring and recordkeeping in this permit. [Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]</p>
	5.6.4		<p>Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings, solids, and HAP containing materials used at the facility. This shall be based on written usage logs, gauge or flowmeter readings, or delivery records. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(2) and Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i), Title I</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.6.5		<p>Monthly Recordkeeping -- HAP Emissions. By the 15th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1. The total usage of HAP-containing materials for the previous calendar month using the daily usage records. This record shall also include the HAP and solids contents of each material as determined by the Material Content requirement of this permit. 2. The HAP emissions for the previous month using Equation 1 of Appendix B. 3. The 12-month rolling sum HAP emissions for the previous 12-month period by summing the monthly HAP emissions data for the previous 12 months. [Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.6.6		<p>Maximum Contents of Materials: The Permittee assumed certain worst-case contents of materials when determining the short-term potential to emit of units in COMG 6. These assumptions are listed in Appendix C of this permit. Changing to a material that has a higher content of any of the given pollutants is considered a change in method of operation that must be evaluated under Minn. R. 7007.1200, subp. 3 to determine if a permit amendment or notification is required under Minn. R. 7007.1150. [Minn. R. 7005.0100, subp. 35a]</p>
	5.6.7		<p>Material Content Records: The Permittee shall keep a current copy of information provided by materials suppliers or manufacturers for each HAP-containing material used. This includes MSDSs, COAs, and test data used to determine the solids and HAP content and density for each HAP-containing material. If the Permittee conducted testing to determine the pollutant content or density, the Permittee must keep a copy of the complete test report. If information was used that was provided by the manufacturer or supplier of the material that was based on testing, the Permittee must keep the COA provided by the manufacturer or supplier. The Permittee is not required to obtain the test report or other supporting documentation from the manufacturer or supplier. [Minn. R. 7007.0800, subps. 4-5]</p>
	5.6.8		<p>Waste Content: If the Permittee elects to obtain credit for HAPs shipped in waste materials, the Permittee shall either use item 1. or 2. to determine the total and individual HAP content for each credited shipment.</p> <ol style="list-style-type: none"> 1. The Permittee shall follow the Waste Sampling requirements specified in this permit to determine the weight content of total HAP, and/or each individual HAP, excluding water. [Minn. R. 7007.0800, subps. 4-5]
	5.6.9		<ol style="list-style-type: none"> 2. The Permittee may use supplier data for raw materials to determine the total and individual HAP contents of each waste shipment, using the same content data used to determine the content of raw materials. If the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>waste contains several materials, the content of mixed waste shall be assumed to be the lowest total and individual HAP content of any of the materials.</p> <p>The content data for each waste stream shall be used in calculations required by this permit for all relevant shipments or all shipments in the calendar quarter, if applicable, following the sample analysis. For example, if quarterly sampling applies, sample results from January shall be used for all waste relevant shipments in January, February, and March, and April results shall be used in April, May, and June, etc. [Minn. R. 7007.0800, subs. 4-5]</p>
	5.6.10		<p>Waste Sampling: The Permittee or the company receiving the waste shall analyze a sample of the relevant stream using an EPA or ASTM reference method, a gas chromatograph, or other method approved by the Commissioner, to determine the weight content of the relevant pollutant for which credit is taken (i.e., VOC, total, or individual HAPs) according to the following schedule:</p> <ol style="list-style-type: none"> 1. A composite sample of each waste shipment of the relevant waste stream, or 2. A composite sample from all shipments of the relevant waste stream at least once per calendar quarter, if after twelve consecutive samples have been completed for the given waste stream, the relevant pollutant contents from each consecutive sample varies by less than or equal to 3.0%. If any two consecutive samples of the given waste stream vary by greater than 3.0%, then the sampling frequency for the given waste stream reverts back to every shipment. The Permittee shall keep copies of all test reports. [Minn. R. 7007.0800, subs. 4-5]
	5.6.11		<p>Monthly Calculation -- HAP Emissions. The Permittee shall calculate each individual HAP and total HAP emissions using the following equations:</p> $\text{HAP Emissions (tons/month)} = H - W$ $H = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + (C3 \times D3) + \dots$ <p>Where:</p> <p>H = the amount of each pollutant (either total HAP or each individual HAP), used, in tons/month.</p> <p>A# = Amount of each HAP-containing material used in the previous month, in tons/month.</p> <p>B# = weight percent of each individual or total HAP in A#, as a fraction (e.g., 50% is 0.50).</p> <p>W = the amount of each pollutant (either total HAP or each individual HAP) shipped in waste, in tons/month.</p> <p>C# = amount, in tons/month, of each HAP-containing waste material shipped. If the Permittee chooses to not take credit for waste shipments,</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>this parameter would be zero. D# = weight percent of each individual or total HAP in C#, as a fraction.</p> <p>A more detailed equation can be found in Appendix B of the permit. [Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]</p>
COMG 7	GP011	Coater 11	
	5.7.1		<p>The Permittee shall reduce VOC emissions to the atmosphere from the coating operation by at least 90 percent. [40 CFR 60.742(b)(1), 40 CFR 60.743(e), Minn. R. 7011.3100]</p>
	5.7.2		<p>The Permittee shall install, operate, and maintain a cover on each piece of affected coating mix preparation equipment and vent VOC emissions from the covered mix equipment to a 95 percent efficient control device while preparation of the coating is taking place within the vessel. [40 CFR 60.742(c)(1), Minn. R. 7011.3100]</p>
	5.7.3		<p>The Permittee shall install, operate, and maintain a cover on each piece of coating mix preparation equipment meeting the following specifications (a-e):</p> <ul style="list-style-type: none"> a. Covers shall be closed at all times except when adding ingredients, withdrawing samples, transferring the contents, or making visual inspection when such activities cannot be carried out with cover in place. Such activities shall be carried out through ports of the minimum practical size; b. Covers shall extend at least 2 centimeters beyond the outer rim of the opening or shall be attached to the rim; c. Covers shall be of such design and construction that contact is maintained between cover and rim along the entire perimeter; d. Any breach in the cover (such as a slit for insertion of a mixer shaft or port for addition of ingredients) shall be covered consistent with paragraphs a., b., and c. above when not actively in use. An opening sufficient to allow safe clearance for a mixer shaft is acceptable during those periods when the shaft is in place; e. A polyethylene or nonpermanent cover may be used provided it meets the requirements of paragraphs b., c., and d. above. Such a cover shall not be reused after once being removed. [40 CFR 60.743(c)(1), Minn. R. 7011.3100]
	5.7.4		<p>Procedures detailing the proper use of covers, as specified in paragraph a. above, shall be posted in all areas where affected coatings mix preparation equipment is used. [40 CFR 60.743(c)(2), Minn. R. 7011.3100]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.7.5		When the semi-annual estimate in COMG 7 for Coater 11 (EQUI 28, EQUI 29, EQUI 30, EQUI 31) is projected to exceed 130 Mg/yr, the coating mix preparation equipment shall be vented to a control device while preparation of the coating is taking place within the vessel. [40 CFR 60.743(c)(3), Minn. R. 7011.3100]
	5.7.6		The Permittee shall install and calibrate all monitoring devices required under the provisions of this section according to the manufacturer's specifications, prior to the initial performance test in locations such that representative values of the monitored parameters will be obtained. The parameters to be monitored shall be continuously measured and recorded during each performance test. [40 CFR 60.744(a), Minn. R. 7011.3100]
	5.7.7		The Permittee shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a monitoring device that continuously indicates and records the combustion temperature of the incinerator. The monitoring device shall have an accuracy within +/- 1 percent of the temperature being measured in Celsius degrees. [40 CFR 60.744(e), Minn. R. 7011.3100]
	5.7.8		The Permittee shall record time periods of mixing or coating operations when the emission control device is malfunctioning or not in use. [40 CFR 60.744(i), Minn. R. 7011.3100]
	5.7.9		The Permittee shall record time periods of mixing or coating operations when each monitoring device is malfunctioning or not in use. [40 CFR 60.744(j), Minn. R. 7011.3100]
	5.7.10		Records of the measurements and calculations required in 40 CFR Sections 60.743 and 60.744 must be retained for at least 2 years following the date of the measurements and calculations. [40 CFR 60.744(k), Minn. R. 7011.3100]
	5.7.11		The Permittee shall submit the performance test data and results to the Administrator as specified in 40 CFR Section 60.8(a). In addition, the average values of the monitored parameters measured at least every 15 minutes and averaged over the period of the performance test shall be submitted with the results of all performance tests. [40 CFR 60.747(a), Minn. R. 7011.3100]
	5.7.12		The Permittee shall maintain records and submit quarterly reports to the Administrator documenting the following: a. All 3-hr periods (during actual coating operations) during which the average combustion temperature of the device is more than 28 Celsius degrees below the average combustion temperature of the device during the most recent performance test that demonstrated compliance; b. All 3-hour periods (during actual coating operations) during which the average enclosure monitor readings vary by 5 percent or more from the average value measured during the most recent performance test that demonstrated compliance; c. For an affected coating operation not required to submit the above reports because no reportable periods have occurred shall submit semiannual statements clarifying this fact. [40 CFR 60.747(d)(4), (6), and (7), Minn. R. 7011.3100]
	5.7.13		The Permittee, either by itself or with associated coating mix preparation

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			equipment, shall submit the following with the reports required under 40 CFR Section 60.747(d): 1. All periods during actual mixing or coating operations when a required monitoring device (if any) was malfunctioning or not operating; and 2. All periods during actual mixing or coating operations when the control device was malfunctioning or not operating. [40 CFR 60.747(f), Minn. R. 7011.3100]
	5.7.14		Reports shall be postmarked within 30 days of the end of the reporting period. [40 CFR 60.747(g), Minn. R. 7011.3100]
	5.7.15		Records required in 40 CFR Section 60.747 must be retained for at least 2 years. [40 CFR 60.747(h), Minn. R. 7011.3100]
COMG 8	GP004	Hot Water Boilers	
	5.8.1		Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input. This limit applies individually to each emission unit. [Minn. R. 7011.0515, subp. 1]
	5.8.2		Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies individually to each emission unit. [Minn. R. 7011.0515, subp. 2]
	5.8.3		Allowable Fuels: Natural gas only. [Minn. R. 7005.0100, subp. 35a]
COMG 9	GP006	Non-VVV coaters	
	5.9.1		Particulate Matter <= 0.3 grains per dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]
	5.9.2		Opacity: less than or equal to 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]
COMG 10	GP005	Subpart VVV - Affected units (< 95 Mg/yr VOC used/unit)	
	5.10.1		Volatile Organic Compounds <= 95.0 megagrams per year 12-month rolling sum for Coater 8 (EQUI 8), Thin Film Pilot Coater (EQUI 54 - EQUI 56), Polysulfone Pilot Coater (EQUI 57). [40 CFR 60.740(b), Minn. R. 7011.3100]
	5.10.2		For each emission unit listed in COMG 10, the Permittee shall: 1. Make semiannual estimates of the projected annual amount of VOC to be used for the manufacture of polymeric coated substrate at the affected coating operation in that year; and 2. Maintain records of actual VOC use.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			3. Record semiannual estimates of projected VOC use and actual 12-month VOC use; 4. Report the first semiannual estimate in which projected annual VOC use exceeds the applicable cutoff; and 5. Report the first 12-month period in which the actual VOC use exceeds the applicable cutoff. [40 CFR 60.744(b), 40 CFR 60.747(c), Minn. R. 7011.3100]
COMG 11	GP009	Paint Booths	
	5.11.1		The Permittee shall vent emissions from the Paint Booth & Solvent Cleaning through the Mat or Panel Filter (TREA 3) at all times that the Paint Booth & Solvent Cleaning is in operation. The Permittee shall document periods of non-operation of the control equipment. [Minn. R. 7007.3010, Title I Condition: Avoid major source under 40 CFR 63]
	5.11.2		The Permittee shall vent emissions from the Paint Booth 2 and Solvent Cleaning through the Mat or Panel Filter (TREA 1) at all times that the Paint Booth 2 and Solvent Cleaning is in operation. The Permittee shall document periods of non-operation of the control equipment. [Minn. R. 7007.3010, Title I Condition: Avoid major source under 40 CFR 63]
	5.11.3		Particulate Matter <= 0.3 grains per dry standard cubic foot unless required to reduce emissions to less than or equal to either the amount allowed by Minn. R. 7011.0730 or the concentration allowed by Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A), Minn. R. 7011.0730, Minn. R. 7011.0735]
	5.11.4		Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]
	5.11.5		HAPs - Single <= 3.0 tons per year 12-month rolling sum. [Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.11.6		Recordkeeping: Once each day, calculate and record the following for the previous day: <ol style="list-style-type: none"> 1. The volume of HAP containing materials used; 2. The HAP content in pounds per gallon of each coating/solvent used. In addition all MSDS for each shipment, purchase orders and invoices necessary to verify the type and quantity used. By the 15th day of each month calculate and record the following: <ol style="list-style-type: none"> 1. Total gallons of each coating/solvent used during the previous month; 2. The sum total HAP usage during the previous month 3. Total HAP usage 12-month rolling sum. [Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
EQUI 1	EU007	Phase I Generator	
	5.12.1		Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
	5.12.2		Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input (0.29 lbs/million BTU heat input per equipment design). [Minn. R. 7011.2300, subp. 2]
	5.12.3		Fuel type: Diesel fuel or No. 2 fuel oil only. [Minn. R. 7005.0100, subp. 35a]
	5.12.4		Change oil and filter every 500 hours of operation or annually, whichever comes first. The Permittee has the option of utilizing an oil analysis program in order to extend the oil change requirement as described below. [40 CFR 63.6603(a), 40 CFR 63.6640, 40 CFR pt. 63, Subp. ZZZZ(Table 2d), Minn. R. 7011.8150]
	5.12.5		Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6603(a), 40 CFR 63.6640, 40 CFR pt. 63, Subp. ZZZZ(Table 2d), Minn. R. 7011.8150]
	5.12.6		Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6603(a), 40 CFR 63.6640, 40 CFR pt. 63, Subp. ZZZZ(Table 2d), Minn. R. 7011.8150]
	5.12.7		The Permittee shall be in compliance with the emission limitations, operating limitations, and other requirements that apply at all times. [40 CFR 63.6605(a), Minn. R. 7011.8150]
	5.12.8		At all times the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b), Minn. R. 7011.8150]
	5.12.9		The Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e), Minn. R. 7011.8150]
	5.12.10		The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply. [40 CFR 63.6625(h), Minn. R. 7011.8150]
	5.12.11		The Permittee has the option of utilizing an oil analysis program in order

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>to extend the specified oil change requirement. The oil analysis shall be performed at the same frequency specified for changing the oil. The analysis program shall at a minimum analyze the following 3 parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5.</p> <p>If none of the condemning limits are exceeded, the Permittee is not required to change the oil. If any of the limits are exceeded, the Permittee shall change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the Permittee shall change the oil within 2 business days or before commencing operation, whichever is later. The Permittee shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program shall be part of the maintenance plan for the engine. [40 CFR 63.6625(i), Minn. R. 7011.8150]</p>
	5.12.12		<p>The Permittee shall operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or the Permittee shall develop and follow a maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6640(a), 40 CFR pt. 63, subp. ZZZZ(Table 6)]</p>
	5.12.13		<p>The Permittee shall comply with the General Provisions in 40 CFR Section 63.1 through 63.15, as stated in 40 CFR pt. 63, subp. ZZZZ, Table 8, as applicable. [40 CFR 63.1 - 63.15, 40 CFR 63.6665, 40 CFR pt. 63, subp. ZZZZ(Table 8), Minn. R. 7011.8150]</p>
	5.12.14		<p>Applicability. The non-opacity emission standards set forth in 40 CFR Section 63.6(f)(1)-(3) shall apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in 40 CFR pt. 63, subp. ZZZZ. [40 CFR 63.6(f)(1), Minn. R. 7011.7000]</p>
	5.12.15		<p>Methods for determining compliance. The Administrator will determine compliance, in part, based on the results of performance tests, conformance with operation and maintenance requirements, review of records, and inspection of the source as specified in 40 CFR Section 63.6(f)(2).</p> <p>The Permittee may use the results of performance testing conducted previously if it meets the requirements of 40 CFR Section 63.6(f)(iii). [40 CFR 63.6(f)(2), Minn. R. 7011.7000]</p>
	5.12.16		<p>Finding of compliance. The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard upon obtaining all the compliance information required by the relevant standard. [40 CFR 63.6(f)(3), Minn. R. 7011.7000]</p>
	5.12.17		<p>The Permittee shall install a non-resettable hour meter if one is not already installed by May 3, 2013. [40 CFR 63.6625(f), Minn. R. 7011.8150]</p>
	5.12.18		<p>The Permittee shall operate the emergency stationary RICE according to</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>the requirements in paragraphs 40 CFR Section 63.6640 (f)(1) through (4). Any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR Section 63.6640(f)(1) through (4), is prohibited. If the engine is not operated according to the requirements in 40 CFR Section 63.6640(f)(1) through (4), the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines. [40 CFR 63.6640(f), Minn. R. 7011.8150]</p>
	5.12.19		<p>(1) There is no time limit on the use of emergency stationary RICE in emergency situations. (2) The Permittee may operate the emergency stationary RICE for any combination of the purposes specified in 40 CFR Section 63.6640(f)(2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR Section 63.6640(f)(3) and (4) counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2). [40 CFR 63.6640(f)(1) - (2), Minn. R. 7011.8150]</p>
	5.12.20		<p>2(i) The Permittee may operate the emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year. [40 CFR 63.6640(f)(2)(i), Minn. R. 7011.8150]</p>
	5.12.21		<p>2(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR Section 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. 2(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. [40 CFR 63.6640(f)(2)(ii) - (iii), Minn. R. 7011.8150]</p>
	5.12.22		<p>(4) The Permittee may operate the emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing and emergency demand response provided in 40 CFR Section 63.6640(f)(2). Except as provided in 40 CFR Section 63.6640(f)(4)(i) and (ii), the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 63.6640(f)(4), Minn. R. 7011.8150]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.12.23		4(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system. [40 CFR 63.6640(f)(4)(i), Minn. R. 7011.8150]
	5.12.24		4(i) The 50 hours per year for nonemergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator. (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. (D) The power is provided only to the facility itself or to support the local transmission and distribution system. 4(ii) (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator. [40 CFR 63.6640(f)(4)(ii), Minn. R. 7011.8150]
	5.12.25		The Permittee shall demonstrate continuous compliance with each emission limitation and operating limitation in Table 2d of 40 CFR pt. 63, subp. ZZZZ that apply according to methods specified in Table 6 of 40 CFR pt. 63, subp. ZZZZ. [40 CFR 63.6640(a), Minn. R. 7011.8150]
	5.12.26		The Permittee shall keep the following records: 1. A copy of each notification and report submitted to comply with 40 CFR pt. 63, subp. ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status submitted according to the requirement in 40 CFR Section 63.10(b)(2)(xiv). 2. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. 3. Records of performance tests and performance evaluations as required in 40 CFR Section 63.10(b)(2)(viii). 4. Records of all required maintenance performed on the air pollution control and monitoring equipment. 5. Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR Section 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.6655(a), Minn. R. 7011.8150]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.12.27		The Permittee shall keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the Permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to the maintenance plan. [40 CFR 63.6655(e), Minn. R. 7011.8150]
	5.12.28		The Permittee shall keep records of the hours of operation of the engine that are recorded through the non-resettable hour meter. The Permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in 40 CFR Section 63.6640(f)(2)(ii) or (iii) or 40 CFR Section 63.6640(f)(4)(ii), the Permittee shall keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. [40 CFR 63.6655(f), Minn. R. 7011.8150]
	5.12.29		The Permittee shall keep records in a form suitable and readily available for expeditious review according to 40 CFR Section 63.10(b)(1). As specified in 40 CFR Section 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record. [40 CFR 63.10(b)(1), 40 CFR 63.6660, Minn. R. 7011.8150]
	5.12.30		The Permittee shall report each instance in which the stationary RICE did not meet each applicable operating limitation. These instances are deviations from the emission and operating limitations. These deviations shall be reported with the deviations report required by this permit. These deviations shall be reported according to the requirements in 40 CFR Section 63.6650. [40 CFR 63.6640(b), Minn. R. 7011.8150]
EQUI 11	EU006	Coater 9	
	5.13.1		The Permittee shall install, operate, and maintain a total enclosure around the coating operation and vent the captured VOC emissions to TREA 2. The total enclosure shall meet the following requirements: a. The only openings in the enclosure are forced makeup air and exhaust ducts and natural draft openings such as those through which raw materials enter and exits the coating operation; b. Total area of all natural draft openings does not exceed 5 percent of the total surface area of the total enclosure's walls, floor, and ceiling; c. All access doors and windows are closed during normal operation of the enclosed coating operation, except for brief, occasional openings to accommodate process equipment adjustments. If such openings are frequent, or if the access door or window remains open for a significant amount

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>of time during the process operation, it must be considered a natural draft opening. Access doors used routinely by workers to enter and exit the enclosed area shall be equipped with automatic closure devices;</p> <p>d. Average inward face velocity (FV) across all natural draft openings is a minimum of 3,600 meters per hour as determined by the following procedures:</p> <p>i. Construct all forced makeup air ducts and all exhaust ducts so that the volumetric flow rate in each can be accurately determined by the test methods and procedures specified in 40 CFR Section 60.745 (c) & (d). Volumetric flow rates shall be calculated without the adjustment normally made for moisture content; and</p> <p>ii. Determine FV using Equation 2 of Appendix B</p> <p>e. The air passing through all natural draft openings flows into the enclosure continuously. If FV is less than or equal to 9,000 meters per hour, the continuous inward airflow shall be verified by continuous observation using smoke tubes, streamers, tracer gases, or other means approved by the Administrator over the period that the volumetric flow rate tests required to determine FV are carried out. If FV is greater than 9,000 meters per hour, the direction of airflow through the natural draft openings shall be presumed to be inward at all times without verification.</p> <p>f. All sources of emissions within the enclosure shall be a minimum of four equivalent diameters away from each natural draft opening. [40 CFR 60.742(b)(2), 40 CFR 60.743(b)(1), 40 CFR 60.743(b)(3), Minn. R. 7011.3100]</p>
	5.13.2		<p>The Permittee shall install, operate, and maintain a cover on each piece of affected coating mix preparation equipment and vent VOC emissions from the covered mix equipment to a 95 percent efficient control device while preparation of the coating is taking place within the vessel. [40 CFR 60.742(c)(1), Minn. R. 7011.3100]</p>
	5.13.3		<p>The Permittee shall install, operate, and maintain a cover on each piece of coating mix preparation equipment meeting the following specifications (a-e):</p> <p>a. Covers shall be closed at all times except when adding ingredients, withdrawing samples, transferring the contents, or making visual inspection when such</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>activities cannot be carried out with cover in place. Such activities shall be carried out through ports of the minimum practical size;</p> <p>b. Covers shall extend at least 2 centimeters beyond the outer rim of the opening or shall be attached to the rim;</p> <p>c. Covers shall be of such design and construction that contact is maintained between cover and rim along the entire perimeter;</p> <p>d. Any breach in the cover (such as a slit for insertion of a mixer shaft or port for addition of ingredients) shall be covered consistent with paragraphs a., b., and c. above when not actively in use. An opening sufficient to allow safe clearance for a mixer shaft is acceptable during those periods when the shaft is in place;</p> <p>e. A polyethylene or nonpermanent cover may be used provided it meets the requirements of paragraphs b., c., and d. above. Such a cover shall not be reused after once being removed. [40 CFR 60.743(c)(1), Minn. R. 7011.3100]</p>
	5.13.4		<p>Procedures detailing the proper use of covers, as specified in paragraph a. above, shall be posted in all areas where affected coatings mix preparation equipment is used. [40 CFR 60.743(c)(2), Minn. R. 7011.3100]</p>
	5.13.5		<p>When the semi-annual estimate for Coater 9 (EQUI 11) is projected to exceed 130 Mg/yr, the coating mix preparation equipment shall be vented to a control device while preparation of the coating is taking place within the vessel. [40 CFR 60.743(c)(3), Minn. R. 7011.3100]</p>
	5.13.6		<p>The Permittee shall install and calibrate all monitoring devices required under the provisions of this section according to the manufacturer's specifications, prior to the initial performance test in locations such that representative values of the monitored parameters will be obtained. The parameters to be monitored shall be continuously measured and recorded during each performance test. [40 CFR 60.744(a), Minn. R. 7011.3100]</p>
	5.13.7		<p>The Permittee shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a monitoring device that continuously indicates and records the combustion temperature of the incinerator. The monitoring device shall have an accuracy within +/- 1 percent of the temperature being measured in Celsius degrees. [40 CFR 60.744(e), Minn. R. 7011.3100]</p>
	5.13.8		<p>The Permittee shall establish a monitoring system for the total enclosure. The Permittee shall submit a monitoring plan for the total enclosure system to the Administrator for approval. This plan shall identify the parameter to be monitored as an indicator of the total enclosure system performance (e.g., the amperage to the exhaust fans or duct flow rates) and the method for monitoring the chosen parameter. Install, calibrate, maintain, and operate, according to the manufacturer's specifications, a</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			monitoring device that continuously indicates and records the value of the chosen parameter. [40 CFR 60.744(g), 40 CFR 60.744(h), Minn. R. 7011.3100]
	5.13.9		The Permittee shall record time periods of mixing or coating operations when the emission control device is malfunctioning or not in use. [40 CFR 60.744(i), Minn. R. 7011.3100]
	5.13.10		The Permittee shall record time periods of mixing or coating operations when each monitoring device is malfunctioning or not in use. [40 CFR 60.744(j), Minn. R. 7011.3100]
	5.13.11		Records of the measurements and calculations required in 40 CFR Sections 60.743 and 60.744 must be retained for at least 2 years following the date of the measurements and calculations. [40 CFR 60.744(k), Minn. R. 7011.3100]
	5.13.12		The Permittee shall submit the performance test data and results to the Administrator as specified in 40 CFR Section 60.8(a). In addition, the average values of the monitored parameters measured at least every 15 minutes and averaged over the period of the performance test shall be submitted with the results of all performance tests. [40 CFR 60.747(a), Minn. R. 7011.3100]
	5.13.13		<p>The Permittee shall maintain records and submit quarterly reports to the Administrator documenting the following:</p> <ul style="list-style-type: none"> a. All 3-hr periods (during actual coating operations) during which the average combustion temperature of the device is more than 28 Celsius degrees below the average combustion temperature of the device during the most recent performance test that demonstrated compliance; b. All 3-hour periods (during actual coating operations) during which the average total enclosure monitor readings vary by 5 percent or more from the average value measured during the most recent performance test that demonstrated compliance; c. For an affected coating operation not required to submit the above reports because no reportable periods have occurred shall submit semiannual statements clarifying this fact. [40 CFR 60.747(d)(4), (6), and (7), Minn. R. 7011.3100]
	5.13.14		<p>The Permittee, either by itself or with associated coating mix preparation equipment, shall submit the following with the reports required under 40 CFR Section 60.747(d):</p> <ul style="list-style-type: none"> 1. All periods during actual mixing or coating operations when a required monitoring device (if any) was malfunctioning or not operating; and 2. All periods during actual mixing or coating operations when the control device was malfunctioning or not operating. [40 CFR 60.747(f), Minn. R.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7011.3100]
	5.13.15		Reports shall be postmarked within 30 days of the end of the reporting period. [40 CFR 60.747(g), Minn. R. 7011.3100]
	5.13.16		Records required in 40 CFR Section 60.747 must be retained for at least 2 years. [40 CFR 60.747(h), Minn. R. 7011.3100]
EQUI 20	EU008	Phase III Generator	
	5.14.1		Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained. [Minn. R. 7011.2300, subp. 1]
	5.14.2		Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input (0.29 lbs/million BTU heat input per equipment design). [Minn. R. 7011.2300, subp. 2]
	5.14.3		Carbon Monoxide <= 23 parts per million by dry volume at 15 percent Oxygen; or reduce CO emissions by 70 percent or more. [40 CFR 63.6603(a), 40 CFR pt. 63, Subp. ZZZZ(Table 2d), Minn. R. 7011.8150]
	5.14.4		Compliance with the numerical emission limitations established in 40 CFR pt. 63, subp. ZZZZ is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR Section 63.6620 and 40 CFR pt. 63, subp. ZZZZ, Table 4. [40 CFR 63.6603, 40 CFR 63.6620, 40 CFR pt. 63, Subp. ZZZZ(Table 4), Minn. R. 7011.8150]
	5.14.5		Fuel type: Diesel fuel or No.2 fuel oil only. [Minn. R. 7005.0100, subp. 35a]
	5.14.6		The Permittee shall vent emissions from Phase III Generator through the Oxidation Catalyst's (TREA 4 & TREA 5) at all times that the Phase III Generator is in operation. The Permittee shall document periods of non-operation of the control equipment. [40 CFR 63.6603(a), 40 CFR 63.6605(a), Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.14.7		Carbon Monoxide >= 89 percent control efficiency by Oxidation Catalyst's (TREA 4 & TREA 5). [40 CFR 63.6603(a), 40 CFR pt. 63, Subp. ZZZZ(Table 2d), Minn. R. 7011.8150]
	5.14.8		Pressure Drop <= 2.0 inches of water column at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test. [40 CFR 63.6603(a), 40 CFR pt. 63, Subp. ZZZZ(Table 2b), Minn. R. 7011.8150]
	5.14.9		Pressure Drop Monitoring: Measure the pressure drop across the catalyst once per month and demonstrate that the pressure drop across the catalyst is within the operating limitation established during the performance testing. [40 CFR 63.6640(a), 40 CFR pt. 63, subp. ZZZZ(Table 6), Minn. R. 7011.8150]
	5.14.10		Temperature >= 450 and <= 1350 degrees Fahrenheit on a 4-hour rolling average. [40 CFR 63.6603(a), 40 CFR pt. 63, Subp. ZZZZ(Table 2b), Minn. R. 7011.8150]
	5.14.11		Temperature Monitoring: The CPMS must collect data at least once every 15 minutes. Reduce these data to 4-hour rolling averages. Maintain the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature. [40 CFR 63.6625(b)(3), 40 CFR 63.6640(a), 40 CFR pt. 63, subp. ZZZZ(Table 6), Minn. R. 7011.8150]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.14.12		For a CPMS measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger. [40 CFR 63.6625(b)(4), 40 CFR 63.6640(a), 40 CFR pt. 63, subp. ZZZZ(Table 6), Minn. R. 7011.8150]
	5.14.13		The Permittee must comply with the applicable requirements in 40 CFR pt. 63, subp. ZZZZ, Table 2d and the operating limitations in 40 CFR pt. 63, subp. ZZZZ, Table 2b. Compliance with the numerical emission limitations must be based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR Section 63.6620 and 40 CFR pt. 63, subp. ZZZZ, Table 4. [40 CFR 63.6603(a), 40 CFR 63.6605(a), Minn. R. 7011.8150]
	5.14.14		At all times the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this permit have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b), Minn. R. 7011.8150]
	5.14.15		The Permittee must use the applicable Equation found in Appendix D of this permit to determine compliance with the percent reduction requirement. [40 CFR 63.6620(e)(1), Minn. R. 7011.8150]
	5.14.16		The Permittee must normalize the CO concentration at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO ₂). If pollutant concentrations are to be corrected to 15 percent oxygen and CO ₂ concentration is measured in lieu of oxygen concentration measurement, a CO ₂ correction factor is needed. Calculate the CO ₂ correction factor as described in Appendix D of this permit. [40 CFR 63.6620(e)(2), Minn. R. 7011.8150]
	5.14.17		The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accuracy in percentage of true value must be provided. [40 CFR 63.6620(i), Minn. R. 7011.8150]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.14.18		<p>Site Specific Monitoring Plan for each CPMS. Prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined below and in 40 CFR Section 63.8(d) for each CPMS. As specified in 40 CFR Section 63.8(f)(4), the Permittee may request approval of alternative monitoring system quality assurance and quality control procedures.</p> <p>1) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;</p> <p>2) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements; [40 CFR 63.6625(b)(1), 40 CFR 63.8(e), Minn. R. 7011.8150, Minn. R. 7017.1010, subp.2(B)]</p>
	5.14.19		<p>Site Specific Monitoring Plan for each CPMS continued.</p> <p>3) Equipment performance evaluations, system accuracy audits, or other audit procedures;</p> <p>4) Ongoing operation and maintenance procedures in accordance with provisions in 40 CFR Section 63.8(c)(1)(ii) and (c)(3); and</p> <p>5) Ongoing reporting and recordkeeping procedures in accordance with provisions in 40 CFR Section 63.10(c), (e)(1), and (e)(2)(i). [40 CFR 63.6625(b)(1), 40 CFR 63.8(e), Minn. R. 7011.8150, Minn. R. 7017.1010, subp.2(B)]</p>
	5.14.20		<p>Install, operate, and maintain each CPMS in continuous operation according to the procedures in the site-specific monitoring plan. [40 CFR 63.6625(b)(2), 40 CFR 63.6640(a), 40 CFR pt. 63, subp. ZZZZ(Table 6), Minn. R. 7011.8150]</p>
	5.14.21		<p>Conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually. [40 CFR 63.6625(b)(5), 40 CFR 63.8(e), Minn. R. 7011.8150, Minn. R. 7017.1010, subp. 2(B)]</p>
	5.14.22		<p>Conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan. [40 CFR 63.6625(b)(6), 40 CFR 63.8(e), Minn. R. 7011.8150, Minn. R. 7017.1010, subp. 2(B)]</p>
	5.14.23		<p>The Permittee shall comply with either paragraph (g)(1) or (g)(2) of 40 CFR Section 63.6625. The Permittee shall follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request to the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements.</p> <p>(1) Ins</p> <p>tall a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or</p> <p>(2) Ins</p> <p>tall an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			oil mist, particulates, and metals. [40 CFR 63.6625(g), Minn. R. 7011.8150]
	5.14.24		Compliance Demonstration: The Permittee shall demonstrate initial compliance with the requirements of 40 CFR pt. 63, subp. ZZZZ by: 1. Reducing the average emissions of CO by 70 percent or more, as determined from the initial performance test; and 2. Installing a CPMS to continuously monitor catalyst inlet temperature according to the requirements of 40 CFR Section 63.6625(b); and 3. Recording the catalyst pressure drop and catalyst inlet temperature during the initial performance test. [40 CFR 63.6630(a), 40 CFR pt. 63, subp. ZZZZ(Table 5), Minn. R. 7011.8150]
	5.14.25		Minimize the engine time spent at idle during startup and minimize the engine startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in 40 CFR pt. 63, subp. ZZZZ, Tables 1a, 2a, 2c, and 2d apply. [40 CFR 63.6635(b), Minn. R. 7011.8150]
	5.14.26		Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, the Permittee must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 63.6635(b), Minn. R. 7011.8150]
	5.14.27		The Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The Permittee must, however, use all the valid data collected during all other periods. [40 CFR 63.6635(c), Minn. R. 7011.8150]
	5.14.28		The Permittee shall demonstrate continuous compliance with each emission limitation and operating limitation in Tables 2b and 2d of 40 CFR pt. 63, subp. ZZZZ that apply according to methods specified in Table 6 of 40 CFR pt. 63, subp. ZZZZ. [40 CFR 63.6640(a), Minn. R. 7011.8150]
	5.14.29		The Permittee shall demonstrate continuous compliance with the requirements of 40 CFR pt. 63, subp. ZZZZ by: 1. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO, to demonstrate that the required 70 percent reduction is achieved or that your emissions remain at or below the 23 parts per million, dry volumetric concentration limit. 2. Collecting the approved operating parameter (if any) data according to 40 CFR Section 63.6625(b). 3. Reducing the data to 4-hour rolling averages. 4. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test. [40 CFR 63.6640(a), 40 CFR pt. 63, subp. ZZZZ(Table 6), Minn. R. 7011.8150]
	5.14.30		Request to use alternative monitoring procedure. The Permittee who wishes to use an alternative monitoring procedure must submit an

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>application to the Administrator as described in 40 CFR Section 63.8(f)(4)(ii). The application may be submitted at any time provided that the monitoring procedure is not the performance test method used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring procedure will serve as the performance test method that is to be used to demonstrate compliance with a relevant standard, the application must be submitted at least 60 days before the performance evaluation is scheduled to begin and must meet the requirements for an alternative test method under 40 CFR Section 63.7(f). [40 CFR 63.6665, 40 CFR 63.8(f)(4)(i), Minn. R. 7011.8150, Minn. R. 7017.1010, subp. 2(B)]</p>
	5.14.31		<p>Request to use alternative monitoring procedure continued.</p> <p>The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in 40 CFR Section 63.2 and a performance evaluation test plan, if required, as specified in 40 CFR Section 63.8(e)(3). In addition, the application must include information justifying the Permittee's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method. [40 CFR 63.6665, 40 CFR 63.8(f)(4)(ii), Minn. R. 7011.8150, Minn. R. 7017.1010, subp. 2(B)]</p>
	5.14.32		<p>Request to use alternative monitoring procedure continued.</p> <p>Application for minor changes to monitoring procedures, as specified in 40 CFR Section 63.8(b)(1), may be made in the site-specific performance evaluation plan. [40 CFR 63.6665, 40 CFR 63.8(f)(4)(ii), Minn. R. 7011.8150, Minn. R. 7017.1010, subp. 2(B)]</p>
	5.14.33		<p>The Permittee shall comply with the General Provisions in 40 CFR Section 63.1 through 63.15, as applicable. [40 CFR 63.1 - 63.15, 40 CFR 63.6665, 40 CFR pt. 63, subp. ZZZZ(Table 8), Minn. R. 7011.8150]</p>
	5.14.34		<p>Applicability. The non-opacity emission standards set forth in 40 CFR Section 63.6(f)(1)-(3) shall apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in 40 CFR pt. 63, subp. ZZZZ. [40 CFR 63.6(f)(1), Minn. R. 7011.7000]</p>
	5.14.35		<p>Methods for determining compliance. The Administrator will determine compliance, in part, based on the results of performance tests, conformance with operation and maintenance requirements, review of records, and inspection of the source as specified in 40 CFR Section 63.6(f)(2).</p> <p>The Permittee may use the results of performance testing conducted previously if it meets the requirements of 40 CFR Section 63.6(f)(iii). [40 CFR 63.6(f)(2), Minn. R. 7011.7000]</p>
	5.14.36		<p>Finding of compliance. The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard upon obtaining all the compliance information required by the relevant standard. [40 CFR 63.6(f)(3), Minn. R. 7011.7000]</p>
	5.14.37		<p>The Permittee may establish the use of an alternative nonopacity emission standard by following the procedure specified in 40 CFR Section 63.6(g). [40 CFR 63.6(g), Minn. R. 7011.7000]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.14.38		The Administrator may grant an extension of compliance with an emission standard, as specified in 40 CFR Section 63.6(i). [40 CFR 63.6(i), Minn. R. 7011.7000]
	5.14.39		If required to do performance testing of each new source and, at the request of the Administrator, of each existing source, the Permittee shall provide performance testing facilities as follows: 1) Sampling ports adequate for test methods applicable to such source including providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures; 2) Safe sampling platform(s); 3) Safe access to sampling platform(s); 4) Utilities for sampling and testing equipment; and 5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source. [40 CFR 63.7(d), Minn. R. 7017.2015]
	5.14.40		Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in 40 CFR Section 63.7, in each relevant standard, and, if required, in applicable appendices of 40 CFR pts. 51, 60, 61, and 63 unless the Administrator approves otherwise in accordance with 40 CFR Section 63.7(e)(2)(i)-(iv). [40 CFR 63.7(e)(2)(i)-(iv), Minn. R. 7017.2015]
	5.14.41		Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the relevant standard. For the purpose of determining compliance with a relevant standard, the arithmetic mean of the results of the three runs shall apply. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run in accordance with 40 CFR Section 63.7(e)(3)(i)-(iv). [40 CFR 63.7(e)(3)(i)-(iv), Minn. R. 7017.2015]
	5.14.42		Results of a performance test shall include the analysis of samples, determination of emissions, and raw data. A performance test is "completed" when field sample collection is terminated. The Permittee shall report the results of the performance test to the Administrator before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator. The results of the performance test shall be submitted as part of the notification of compliance status. The Permittee shall maintain and make available for inspection by the Administrator the records or results of each performance test and other data needed to determine emissions from an affected source for a minimum of 5 years after a performance test is conducted. [40 CFR 63.7(g), Minn. R. 7017.2015]
	5.14.43		1) Until a waiver of a performance testing requirement has been granted by the Administrator, the Permittee of an affected source remains subject to the requirements of 40 CFR Section 63.7. 2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the Permittee has

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>requested an extension of compliance and the Administrator is still considering that request.</p> <p>3) The Permittee may request to waive a performance test in accordance with the provisions of 40 CFR Section 63.7(h)</p> <p>4) Approval of any waiver granted shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the Permittee.</p> <p>[40 CFR 63.7(h), Minn. R. 7017.2015]</p>
	5.14.44		<p>Upon promulgation of a performance specification for the CPMS, the Permittee shall comply with the quality control provisions in 40 CFR Section 63.8(d) and shall conduct the required performance evaluation in 40 CFR Section 63.8(e), unless an alternative monitoring method has been approved under the provisions of 40 CFR Section 63.8(f). [40 CFR 63.8(a)(2)]</p>
	5.14.45		<p>The Permittee must report each instance in which an emission limitation or operating limitation was exceeded. These instances are deviations from the emission and operating limitations. These deviations must be reported according to the requirements in 40 CFR Section 63.6650. [40 CFR 63.6640(b), Minn. R. 7011.8150]</p>
	5.14.46		<p>The Permittee must report each instance in which the Permittee did not meet the requirements in 40 CFR pt. 63, subp. ZZZZ, Table 8 (General Provisions). [40 CFR 63.6640(c), Minn. R. 7011.8150]</p>
	5.14.47		<p>Deviation Reporting in Compliance Report. For each deviation from an emission or operating limitation that occurs where a CMS is not used to comply with the emission or operating limitations in this subpart, the Compliance report must also contain:</p> <ol style="list-style-type: none"> 1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period. 2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken. [40 CFR 63.6650(d)(1) and (2), Minn. R. 7011.8150]
	5.14.48		<p>Deviation Reporting in Compliance Report. For each deviation from an emission or operating limitation that occurs where a CMS is used to comply with the emission and operating limitations, the Compliance Report must also contain:</p> <ol style="list-style-type: none"> 1) The date and time that each malfunction started and stopped. 2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks. 3) The date, time, and duration that each CMS was out-of-control, including the information in 40 CFR Section 63.8(c)(8). 4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period. 5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period. 6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period. 8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE. 9) A brief description of the stationary RICE. 10) A brief description of the CMS. 11) The date of the latest CMS certification or audit. 12) A description of any changes in CMS, processes, or controls since the last reporting period. [40 CFR 63.6650(e), Minn. R. 7011.8150]
	5.14.49		Deviation Reporting in Compliance Report. Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 must report all in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A). If the Permittee submits a Compliance report pursuant to 40 CFR pt. 63, subp. ZZZZ, Table 7 along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report must be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report must not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority. [40 CFR 63.6650(f), Minn. R. 7011.8150]
	5.14.50		RECORDKEEPING. [No mapping from migration]
	5.14.51		The Permittee shall demonstrate continuous compliance with each emission limitation and operating limitation in Table 2d of 40 CFR pt. 63, subp. ZZZZ that apply according to methods specified in Table 6 of 40 CFR pt. 63, subp. ZZZZ. [40 CFR 63.6640(a), Minn. R. 7011.8150]
	5.14.52		The Permittee must keep the following records: 1) A copy of each notification and report submitted, including all documentation supporting any Initial Notification or Notification of Compliance Status submitted, according to the requirement in 40 CFR Section 63.10(b)(2)(xiv). 2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. 3) Records of performance tests and performance evaluations as required in 40 CFR Section 63.10(b)(2)(viii). 4) Records of all required maintenance performed on the air pollution control and monitoring equipment. (5) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR Section 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.6655(a), Minn. R. 7011.8150]
	5.14.53		For each CPMS the Permittee must keep the following records: 1) Records described in 40 CFR Section 63.10(b)(2)(vi) through (xi).

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>2) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR Section 63.8(d)(3).</p> <p>3) Requests for alternatives to the relative accuracy test for CPMS as required in 40 CFR Section 63.8(f)(6)(i), if applicable. [40 CFR 63.6655(b), Minn. R. 7011.8150]</p>
	5.14.54		<p>The Permittee must keep the records required in 40 CFR pt. 63, subp. ZZZZ, Table 6 to show continuous compliance with each applicable emission or operating limitation. [40 CFR 63.6655(d), Minn. R. 7011.8150]</p>
	5.14.55		<p>The Permittee shall maintain all records in a form suitable and readily available for expeditious review according to 40 CFR Section 63.10(b)(1).</p> <p>As specified in 40 CFR Section 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.</p> <p>The Permittee shall keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR Section 63.10(b)(1). [40 CFR 63.10(b)(1), 40 CFR 63.6660(a)-(c), Minn. R. 7011.8150, Minn. R. 7019.0100, subp. 2(B)]</p>
	5.14.56		<p>The Permittee shall maintain, at a minimum, the following information:</p> <ol style="list-style-type: none"> 1. Each period during which a CMS is malfunctioning or inoperative, including out-of-control periods; 2. All required measurements needed to demonstrate compliance with a relevant standard; 3. All results of performance tests, CMS performance evaluations, and opacity and visible emission observations; 4. All measurements as may be necessary to determine the conditions of performance tests and performance evaluations; 5. All CMS calibration checks; 6. All adjustments and maintenance performed on CMS; 7. Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements under 40 CFR pt. 63, subp. A if the Permittee has been granted a waiver under paragraph (f) of this section; 8. All emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test, if the source has been granted such permission under 40 CFR Section 63.8(f)(6); and 9. All documentation supporting initial notifications and notifications of compliance status under 40 CFR Section 63.9. [40 CFR 63.10(b)(2), Minn. R. 7019.0100, subp. 2(B)]
	5.14.57		<p>The Permittee shall maintain, at a minimum, the following information:</p> <ol style="list-style-type: none"> 1. All required CMS measurements; 2. The date and time identifying each period during which the CMS was inoperative except for zero and high-level checks; 3. The date and time identifying each period during which the CMS was out of control, as defined in 40 CFR Section 63.8(c)(7); 4. The specific identification of each period of excess emissions and parameter monitoring exceedances, that occurs during startups, shutdowns, and malfunctions; 5. The specific identification of each time period of excess emissions and

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>parameter monitoring exceedances, that occurs during periods other than startups, shutdowns, and malfunctions; 6. The nature and cause of any malfunction (if known); 7. The corrective action taken or preventive measures adopted; 8. The nature of the repairs or adjustments to the CMS that was inoperative or out of control; 9. The total process operating time during the reporting period; and 10. All procedures that are part of a quality control program developed and implemented for CMS under 40 CFR Section 63.8(d). [40 CFR 63.10(c)]</p>
	5.14.58		<p>The Permittee shall report each instance in which the stationary RICE did not meet each applicable emission limitation or operating limitation. These instances are deviations from the emission and operating limitations. These deviations shall be reported according to the requirements in 40 CFR Section 63.6650. [40 CFR 63.6640(b), Minn. R. 7011.8150]</p>
	5.14.59		<p>The Permittee shall report each instance when the applicable requirements in Table 8 of 40 CFR pt. 63, subp. ZZZZ were not met. [40 CFR 63.6640(e), 40 CFR pt. 63, subp. ZZZZ(Table 8), Minn. R. 7011.8150]</p>
	5.14.60		<p>The Permittee shall submit all of the notifications in 40 CFR Section 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b)-(e), and (g) and (h) that apply by the dates specified. [40 CFR 63.6645(a), Minn. R. 7011.8150]</p>
	5.14.61		<p>The Permittee shall submit each report in Table 7 of 40 CFR pt. 63, subp. ZZZZ, as applicable. [40 CFR 63.6650(a), 40 CFR pt. 63, subp. ZZZZ(Table 7), Minn. R. 7011.8150]</p>
	5.14.62		<p>The Permittee shall submit a Compliance Report semiannually according to the requirements in 40 CFR Section 63.6650(b) with the following contents: 1. If there are no deviations from any applicable emission limitations or operating limitations, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in 40 CFR Section 63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or 2. If there was a deviation from any emission limitation or operating limitation during the reporting period, the information in 40 CFR Section 63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in 40 CFR Section 63.8(c)(7), the information in 40 CFR Section 63.6650(e); or 3. If there was a malfunction during the reporting period, the information in 40 CFR Section 63.6650(c)(4). [40 CFR 63.6650(a), 40 CFR pt. 63, subp. ZZZZ(Table 7), Minn. R. 7011.8150]</p>
	5.14.63		<p>The Semiannual Compliance report shall contain the information in paragraphs (c)(1) through (c)(6) of 40 CFR Section 63.6650. [40 CFR 63.6650(c), Minn. R. 7011.8150]</p>
	5.14.64		<p>For each deviation from an emission or operating limitation that occurs, the Compliance report shall contain the information in paragraphs (c)(1) - (c)(4) and (e)(1) - (e)(12) of 40 CFR Section 63.6650. [40 CFR 63.6650(e), Minn. R. 7011.8150]</p>
	5.14.65		<p>The Permittee shall report all deviations as defined in 40 CFR pt. 63, subp.</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			ZZZZ in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A). [40 CFR 63.6650(f), Minn. R. 7011.81550]
	5.14.66		The Permittee shall conduct each performance test in Tables 3 and 4 of 40 CFR pt. 63, subp. ZZZZ that applies. Each performance test shall be conducted according to the requirements that are specified in Table 4 of 40 CFR pt. 63, subp. ZZZZ. The Permittee shall conduct three separate test runs for each performance test required in this section, as specified in 40 CFR Section 63.7(e)(3). Each test run shall last at least 1 hour. [40 CFR 63.6612(a), 40 CFR 63.6620(a),(b),&(d), 40 CFR pt. 63, Subp. ZZZZ(Table 3)(Table 4), Minn. R. 7011.8150]
	5.14.67		Performance Test- Change of Catalyst: If the Permittee changes the catalyst, the Permittee shall reestablish the pressure drop operating value across the catalyst and conduct a performance test to demonstrate that the required CO reduction requirement is being met for the new catalyst. [40 CFR 63.6640(b), Minn. R. 7011.8150]
EQUI 26	EU033	Spray Booth/Coating Line - Coater 10 Process	
	5.15.1		Particulate Matter < 0.30 grains per dry standard cubic foot of exhaust gas unless required to reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. [Minn. R. 7011.0715, subp. 1(A)]
	5.15.2		Opacity <= 20 percent opacity. [Minn. R. 7011.0715, subp. 1(B)]
EQUI 32	EU027	Spray Booth/Coating Line - Coater 7 & Mixing	
	5.16.1		Coater 7 Application Rate Dimethyl formamide <= 12600 pounds (DMF) per day, 365 daily rolling average, as determined by the January 25, 2017 performance test, unless a new maximum limit is set pursuant to Minn. R. 7012.2025, subp. 3 based on the coating application rate recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63]
	5.16.2		The Permittee shall reduce VOC emissions to the atmosphere from the coating operation by at least 90 percent. [40 CFR 60.742(b)(1), 40 CFR 60.743(e), Minn. R. 7011.3100]
	5.16.3		The Permittee shall install, operate, and maintain a cover on each piece of affected coating mix preparation equipment and vent VOC emissions from the covered mix equipment to a 95 percent efficient control device

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			while preparation of the coating is taking place within the vessel. [40 CFR 60.742(c)(1), Minn. R. 7011.3100]
	5.16.4		<p>The Permittee shall install, operate, and maintain a cover on each piece of coating mix preparation equipment meeting the following specifications (a-e):</p> <p>a. Covers shall be closed at all times except when adding ingredients, withdrawing samples, transferring the contents, or making visual inspection when such activities cannot be carried out with cover in place. Such activities shall be carried out through ports of the minimum practical size;</p> <p>b. Covers shall extend at least 2 centimeters beyond the outer rim of the opening or shall be attached to the rim;</p> <p>c. Covers shall be of such design and construction that contact is maintained between cover and rim along the entire perimeter;</p> <p>d. Any breach in the cover (such as a slit for insertion of a mixer shaft or port for addition of ingredients) shall be covered consistent with paragraphs a., b., and c. above when not actively in use. An opening sufficient to allow safe clearance for a mixer shaft is acceptable during those periods when the shaft is in place;</p> <p>e. A polyethylene or nonpermanent cover may be used provided it meets the requirements of paragraphs b., c., and d. above. Such a cover shall not be reused after once being removed. [40 CFR 60.742(c)(1), Minn. R. 7011.3100]</p>
	5.16.5		Procedures detailing the proper use of covers, as specified in paragraph a. above, shall be posted in all areas where affected coatings mix preparation equipment is used. [40 CFR 60.743(c)(2), Minn. R. 7011.3100]
	5.16.6		When the semi-annual estimate in COMG 10 for Coater 7 (EQUI 32) is projected to exceed 130 Mg/yr, the coating mix preparation equipment shall be vented to a control device while preparation of the coating is taking place within the vessel. [40 CFR 60.743(c)(3), Minn. R. 7011.3100]
	5.16.7		The Permittee shall install and calibrate all monitoring devices required under the provisions of this section according to the manufacturer's specifications, prior to the initial performance test in locations such that representative values of the monitored parameters will be obtained. The parameters to be monitored shall be continuously measured and recorded during each performance test. [40 CFR 60.744(a), Minn. R. 7011.3100]
	5.16.8		Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings, for the previous day, used at the Coater 7. This shall be based on application data

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			from the coater data system and calculated on the highest formula concentration or the actual concentration. [40 CFR 60.746(a), Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]
EQUI 34	EU029	Separation Equipment - Coater 9 Solvent Sparging System	
	5.17.1		The Permittee shall vent emissions from the Coater 9 Solvent Sparging System (EQUI 34) through the Thermal Oxidizer (TREA 2) at all times that the Coater 9 Solvent Sparging System is in operation. The Permittee shall document periods of non-operation of the control equipment. [To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.17.2		The Permittee shall record all time periods of Coater 9 Solvent Sparging System (EQUI 34) operations. [40 CFR 60.744(i), Minn. R. 7011.3100]
	5.17.3		The Permittee shall record the volume and concentration of solvent in the liquid at the inlet and outlet of the sparging system. [40 CFR 60.744(j), Minn. R. 7011.3100]
	5.17.4		Records of the measurements and calculations required in 40 CFR Sections 60.743 and 60.744 must be retained for at least 2 years following the date of the measurements and calculations. [40 CFR 60.744(k), Minn. R. 7011.3100]
EQUI 56	EU041	Thin Film Pilot Coater Coating Process	
	5.18.1		Hours of Operation: The Thin Film Pilot Coater Line (EQUI 56) shall be operated for less than 1500 hours per year. [40 CFR 60.740(a)]
	5.18.2		Recordkeeping (Hours of Operation): The Permittee shall may a log of the dates and hours of operation. The hours of operation shall be recorded by the 15th day of each month for the previous month. [Minn. R. 7007.0800, 4 and 5]
EQUI 57	EU042	Polysulfone Pilot Coating Process	
	5.19.1		Hours of Operation: The Thin Film Pilot Coater Line (EQUI 57) shall be operated for less than 1500 hours per year. [40 CFR 60.740(a)]
	5.19.2		Polysulfone Pilot Line application rate Dimethyl formamide <= pounds (to be determined) per day 365 daily rolling average as determined by the Initial Performance test, unless a new maximum limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the coating application rate recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. [Title I Condition: Avoid

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.19.3		Recordkeeping (Hours of Operation): The Permittee shall may a log of the dates and hours of operation. The hours of operation shall be recorded by the 15th day of each month for the previous month. [Minn. R. 7007.0800, 4 and 5]
	5.19.4		Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings, for the previous day, used at the Polysulfone Pilot Coater. This shall be based on application data from the coater data system and calculated on the highest formula concentration or the actual concentration. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
TREA 1	CE003	Mat or Panel Filter	
	5.20.1		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for Particulate Matter \geq 92 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011]
	5.20.2		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for PM < 10 micron \geq 92 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011]
	5.20.3		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for PM < 2.5 micron \geq 92 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011]
	5.20.4		The Permittee shall develop an Operation and Maintenance Plan for TREA 1: Retain at the stationary source an operation and maintenance plan (O & M plan) for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation. [Minn. R. 7007.0800, subp. 4, Minn. R. 7011.0080]
	5.20.5		Operation and Maintenance of Wall/Panel Filter: The Permittee shall operate and maintain the wall/panel filter according to the control equipment operation and maintenance plan, shall conduct inspections, and maintain documentation of those actions as required by Minn. R. 7011.0075, subps. 2(A) to 2(I). [Minn. R. 7011.0080, Minn. R. 7007.0800, subp. 4]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.20.6		Daily Inspections: Once each operating day, the Permittee shall visually inspect the condition of each panel filter with respect to alignment, saturation, tears, holes and any other condition that may affect the filter's performance. The Permittee shall maintain a daily written record of filter inspections. [Minn. R. 7007.0800, subp. 4, Minn. R. 7011.0080]
	5.20.7		Periodic Inspections: At least once per calendar quarter, or more frequently as required by the operations and maintenance plan, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7011.0080, Minn. R. 7007.0800, subp. 4]
	5.20.8		Recordkeeping of corrective actions: If the filters or any of their components are found during the inspections to need repair, the Permittee shall follow the operation and maintenance plan for the wall/panel filter and take corrective action as soon as possible. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [Minn. R. 7007.0800, subp. 5]
	5.20.9		TREA 1 shall control EQUI 33, Spray Booth/Coating Line - Paint Booth 2 and Solvent Cleaning, at all times EQUI 33 is in operation. [Minn. R. 7007.0800, subp. 4]
TREA 2	CE001	Thermal Oxidizer	
	5.21.1		Volatile Organic Compounds >= 95 percent control efficiency using Equation 1 (Appendix B) and the test methods and procedures specified in 40 CFR Section 60.745(b)-(g). [40 CFR 60.742(b)(1) & (c)(1), 40 CFR 60.743(b)(3) & (c)(4), Minn. R. 7011.3100]
	5.21.2		Temperature >= 1575 degrees Fahrenheit 3-hour rolling average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.21.3		The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment (EQUI 2, EQUI 5, EQUI 11, and EQUI 34) controlled by the thermal oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.21.4		The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber. [Minn. R. 7007.0800, subps. 4-5]
	5.21.5		Daily Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating day to verify that it is working and recording properly. The Permittee shall

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			maintain a written record of the daily verifications. [Minn. R. 7007.0800, subps. 4-5]
	5.21.6		Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required. [Minn. R. 7007.0800, subp. 4]
	5.21.7		The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 1.0 percent of the temperature being measured in degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. [Minn. R. 7007.0800, subps. 4-5]
	5.21.8		Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. 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, subps. 4-5]
	5.21.9		Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration. [Minn. R. 7007.0800, subps. 4-5, Minn. R. 7007.0800, subp. 14]
	5.21.10		<p>For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit:</p> <ol style="list-style-type: none"> 1. The overall control efficiency limit specified in this permit for this equipment (95%); or 2. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test. [Minn. R. 7007.0800, subps. 4-5]
	5.21.11		Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum 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&M Plan for the thermal oxidizer. The Permittee shall

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			keep a record of the type and date of any corrective action taken. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.21.12		The Permittee shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a monitoring device that continuously indicates and records the combustion temperature of the incinerator. The monitoring device shall have an accuracy within +/- 1 percent of the temperature being measured in Celsius degrees. [40 CFR 60.744(e), Minn. R. 7011.3100]
	5.21.13		The Permittee shall operate and maintain the thermal oxidizer in accordance with the 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]
	5.21.14		The Permittee shall record time periods of mixing or coating operations when the emission control device is malfunctioning or not in use. [40 CFR 60.744(i), Minn. R. 7011.3100]
	5.21.15		The Permittee shall record time periods of mixing or coating operations when each monitoring device is malfunctioning or not in use. [40 CFR 60.744(j), Minn. R. 7011.3100]
	5.21.16		Records of the measurements and calculations required in 40 CFR Sections 60.743 and 60.744 must be retained for at least 2 years following the date of the measurements and calculations. [40 CFR 60.744(k), Minn. R. 7011.3100]
	5.21.17		The Permittee shall submit the performance test data and results to the Administrator as specified in 40 CFR Section 60.8(a). In addition, the average values of the monitored parameters measured at least every 15 minutes and averaged over the period of the performance test shall be submitted with the results of all performance tests. [40 CFR 60.747(a), Minn. R. 7011.3100]
	5.21.18		<p>The Permittee shall maintain records and submit quarterly reports to the Administrator documenting the following:</p> <ul style="list-style-type: none"> a. All 3-hr periods (during actual coating operations) during which the average combustion temperature of the device is more than 28 Celsius degrees below the average combustion temperature of the device during the most recent performance test that demonstrated compliance; b. All 3-hour periods (during actual coating operations) during which the average enclosure monitor readings vary by 5 percent or more from the average value measured during the most recent performance test that demonstrated compliance; c. For an affected coating operation not required to submit the above reports because no reportable periods have occurred shall submit semiannual statements clarifying this fact. [40 CFR 60.747(d)(4), (6), and (7), Minn. R. 7011.3100]
	5.21.19		<p>The Permittee, either by itself or with associated coating mix preparation equipment, shall submit the following with the reports required under 40 CFR Section 60.747(d):</p> <ul style="list-style-type: none"> 1. All periods during actual mixing or coating operations when a required monitoring device (if any) was malfunctioning or not operating; and 2. All periods during actual mixing or coating operations when the control

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			device was malfunctioning or not operating. [40 CFR 60.747(f), Minn. R. 7011.3100]
	5.21.20		Reports shall be postmarked within 30 days of the end of the reporting period. [40 CFR 60.747(g), Minn. R. 7011.3100]
	5.21.21		Records required in 40 CFR Section 60.747 must be retained for at least 2 years. [40 CFR 60.747(h), Minn. R. 7011.3100]
TREA 3	CE002	Mat or Panel Filter	
	5.22.1		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for Particulate Matter \geq 92 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011]
	5.22.2		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for PM < 10 micron \geq 92 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011]
	5.22.3		The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for PM < 2.5 micron \geq 92 percent control efficiency. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2, Minn. R. 7011]
	5.22.4		The Permittee shall develop an Operation and Maintenance Plan for TREA 3: Retain at the stationary source an operation and maintenance plan (O & M plan) for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation. [Minn. R. 7007.0800, subp. 4, Minn. R. 7011.0080]
	5.22.5		Operation and Maintenance of Wall/Panel Filter: The Permittee shall operate and maintain the wall/panel filter according to the control equipment operation and maintenance plan, shall conduct inspections, and maintain documentation of those actions as required by Minn. R. 7011.0075, subps. 2(A) to 2(I). [Minn. R. 7007.0800, subp. 4, Minn. R. 7011.0080]
	5.22.6		Daily Inspections: Once each operating day, the Permittee shall visually inspect the condition of each panel filter with respect to alignment, saturation, tears, holes and any other condition that may affect the filter's performance. The Permittee shall maintain a daily written record of filter inspections. [Minn. R. 7007.0800, subp. 4, Minn. R. 7011.0080]
	5.22.7		Periodic Inspections: At least once per calendar quarter, or more frequently as required by the operations and maintenance plan, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7011.0080, Minn. R. 7007.0800, subp. 4]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.22.8		Recordkeeping of corrective actions: If the filters or any of their components are found during the inspections to need repair, the Permittee shall follow the operation and maintenance plan for the wall/panel filter and take corrective action as soon as possible. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. [Minn. R. 7007.0800, subp. 5]
	5.22.9		TREA 3 shall control EQUI 12, Equipment Paint Booth & MEK Cleaning, at all times EQUI 12 is in operation. [Minn. R. 7007.0800, subp. 4]
TREA 6	CE006	Thermal Oxidizer	
	5.23.1		Volatile Organic Compounds >= 95 percent control efficiency using Equation 1 (Appendix B) and the test methods and procedures specified in 40 CFR Section 60.745(b)-(g). [40 CFR 60.742(b)(1) & (c)(1), 40 CFR 60.743(b)(3) & (c)(4), Minn. R. 7011.3100]
	5.23.2		Temperature >= 1575 degrees Fahrenheit 3-hour rolling average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.23.3		The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment (EQUI 28, and EQUI 29) controlled by the thermal oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.23.4		The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber. [Minn. R. 7007.0800, subps. 4-5]
	5.23.5		Daily Monitoring: The Permittee shall physically verify the operation of the temperature recording device 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]
	5.23.6		Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required. [Minn. R. 7007.0800, subp. 4]
	5.23.7		The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 1.0 percent of the

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			temperature being measured in degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. [Minn. R. 7007.0800, subps. 4-5]
	5.23.8		Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. 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, subps. 4-5]
	5.23.9		Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.23.10		<p>For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit:</p> <ol style="list-style-type: none"> 1. The overall control efficiency limit specified in this permit for this equipment (95%); or 2. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test. [Minn. R. 7007.0800, subps. 4-5]
	5.23.11		Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum 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&M Plan for the thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.23.12		The Permittee shall operate and maintain the thermal oxidizer in accordance with the 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 8		Coater 7 Water Bath Tanks	
	5.24.1		The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Volatile Organic Compounds ≥ 90.0

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			percent control efficiency. [40 CFR 60.742(b)(1), Minn. R. 7011.3100]
	5.24.2		The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for HAPs - Single \geq 90.0 percent control efficiency. [Title I Condition: Avoid major source under 40 CFR 63.2]
	5.24.3		<p>Temperature, Water (F) \geq 67 degrees Fahrenheit 1-hour block average in the quench tank as determined during the January 25, 2017 performance test unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the quench tank temperature recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency is demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. The limit shall be determined from the test using the minimum of three 1-hour block average temperatures from three test runs where temperatures are recorded every minute.</p> <p>If the recorded 1-hour block average temperature is below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average temperature is above the minimum temperature limit. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63]</p>
	5.24.4		<p>Temperature, Water (F) \geq 120 degrees Fahrenheit 1-hour block average in the final tank as determined during the January 25, 2017 performance test unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the final tank temperature recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency is demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. The limit shall be determined from the test using the minimum of three 1-hour block average temperatures from three test runs where temperatures are recorded every minute.</p> <p>If the recorded 1-hour block average temperature is below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average temperature is above the minimum temperature limit." [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63]</p>
	5.24.5		<p>Water flow rate \geq 6.5 gallons per minute 1-hour block average in the quench tank as determined during the January 25, 2017 performance test unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the quench tank water flow rate recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency is demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. The limit shall be determined from the test using the minimum of three 1-hour block average water flow rates from three test runs where water flow rates are recorded every minute.</p> <p>If the recorded 1-hour block average water flow rate is below the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>minimum water flow rate limit, the VOC used during that time shall be considered uncontrolled until the average water flow rate is above the minimum water flow rate. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63]</p>
	5.24.6		<p>Water flow rate \geq 5.5 gallons per minute 1-hour block average in the final tank as determined during the January 25, 2017 performance test unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the final tank water flow rate recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency is demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. The limit shall be determined from the test using the minimum of three 1-hour block average water flow rates from three test runs where water flow rates are recorded every minute.</p> <p>If the recorded 1-hour block average water flow rate is below the minimum water flow rate limit, the VOC used during that time shall be considered uncontrolled until the average water flow rate is above the minimum water flow rate. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63]</p>
	5.24.7		<p>Water levels must be maintained in the water bath tanks and the high-level sensor must be wet at the start and at all time during the run when substrate is being coated with a polymer solution. The water level condition will be recorded each day in data systems the coater operates. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63.2]</p>
	5.24.8		<p>The concentration of solvent (DMF) in the first water bath shall not exceed 20% by weight. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63.2]</p>
	5.24.9		<p>The Permittee shall operate and maintain all of the water bath tanks at all times that any emission unit controlled by the water bath tanks is in operation. The Permittee shall document periods of non-operation of the water bath tanks when the coating pump is operating. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63.2]</p>
	5.24.10		<p>The Permittee shall operate and maintain the water bath tanks 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]</p>
	5.24.11		<p>Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording the coating application rate, water bath temperatures, water flows, and high water levels as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored water bath tanks are in operation. [40 CFR 60.746(a), Minn. R. 7007.0800, subp. 4, Title I Condition: Avoid major source under 40 CFR 63.2]</p>
	5.24.12		<p>Daily Recordkeeping: The Permittee shall record the quench and final tank temperatures and flow rates, each minute, when the coater line is in operation. At the end of each hour of operation, the Permittee shall calculate the quench and final tank temperatures and flow rates in a 1-</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			hour block average. [40 CFR 60.746(a), Minn. R. 7007.0800, 4-5]
	5.24.13		Daily Recordkeeping (temperature). On each day of operation, the Permittee shall record and maintain a record of the water bath temperature in the first and final bath. The Permittee shall record the time and date of each water bath temperature reading. The 1 hour block average temperature in these baths will be daily recorded and calculated (electronic data system) and compared to the 1 hour block average temperature requirement and whether or not the recorded water temperature was within the operating parameter specified in this permit. [40 CFR 60.746(a), Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]
	5.24.14		Daily Recordkeeping (flow rates). On each day of operation, the Permittee shall record and maintain a record of the water flow rates into the first and final bath. The Permittee shall record the time and date of each water bath flow rate reading. The 1 hour block average flow rate in these baths will be daily recorded and calculated (electronic data system) and compared to the 1 hour block average flow rate requirement and whether or not the recorded flow rates were within the operating parameter specified in this permit. [40 CFR 60.746(a), Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]
	5.24.15		Recordkeeping of the Water High-level Sensor. On each day of operation, the Permittee shall record the time and date of each water high-level sensor as either wet or dry in the first and last tank during the coating operation. A record will be kept, daily, of these dates and times of the sensors being wet during the entire day or list the times if a sensor indicated dry during the run. [40 CFR 60.746(a), Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]
	5.24.16		<p>Weekly Sampling: The Permittee shall conduct sampling, every week, to measure DMF solvent concentration, unless Coater 7 has not been in operation during 7 consecutive days in a way to condition the water bath for sampling. The first water bath tank shall be sampled and analyzed to verify the DMF concentration using method based on EPA Method 8015B or an equivalent method as approved by the MPCA. Samples collected to measure solvent concentration in water bath must follow conditioning of the tank. The water sample analysis may be conducted at the facility's on-site lab. A log indicating Coater 7 daily operation status shall be kept on site.</p> <p>Conditioning of the tanks is defined as the coating operation shall be running a minimum of 24 hours with only minor interruptions. None of the minor interruptions should have ended within four hours of the sample collection. [40 CFR 60.746(a), Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 63.2]</p>
	5.24.17		Recordkeeping of the Sampling: The Permittee shall record and maintain a record of the measured DMF concentration. The Permittee shall record the time and date of each water bath concentration measurement and whether or not the recorded DMF concentration was within the operating parameter specified in this permit. Concentration measurements will be recorded along with the average tank water level, flow rate, and

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			temperature for the 60 minutes prior to the sampling time. [Minn. R. 7007.0800, subps. 4-5]
	5.24.18		VOC control efficiency compliance shall be demonstrated using the using found in Appendix E. [Minn. R. 7007.0800, 2]
	5.24.19		HAP control efficiency compliance shall be demonstrated using the using found in Appendix E. [Minn. R. 7007.0800, 2]
	5.24.20		<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"> - the water bath levels are outside the required operating range; - the water flow rates into the baths are outside the required operating range; - the recorded water bath temperatures are outside the required operating range; - the concentration of DMF in the quench tank is outside the range specified in this permit; or - the water bath tanks or any of its components are found during the inspections to need repair. <p>Corrective actions shall return the water bath tanks to within the permitted range(s) 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 & M Plan for the water bath tanks. The Permittee shall keep a record of the type and date of any corrective action taken for the water tank baths. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]</p>
	5.24.21		The Permittee shall record time periods of mixing or coating operations when the emission control device is malfunctioning or not in use. [40 CFR 60.744(i), Minn. R. 7011.3100]
	5.24.22		The Permittee shall record time periods of mixing or coating operations when each monitoring device is malfunctioning or not in use. [40 CFR 60.744(j), Minn. R. 7011.3100]
	5.24.23		Periodic Inspections: At least once per calendar quarter or at a lesser frequency recommended by the manufacturer, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]
	5.24.24		Annual Calibration: The Permittee shall calibrate the monitoring equipment at least annually and shall maintain a written record of the calibration and any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]
	5.24.25		The Permittee shall submit the performance test data and results to the Administrator as specified in 40 CFR Section 60.8(a). In addition, the average values of the monitored parameters measured at least every 15 minutes and averaged over the period of the performance test shall be submitted with the results of all performance tests. [40 CFR 60.747(a), Minn. R. 7011.3100]
	5.24.26		The Permittee shall submit the following with the reports required under 40 CFR Section 60.747(d):

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>1. All periods during actual mixing or coating operations when a required monitoring device (if any) was malfunctioning or not operating; and 2. All periods during actual mixing or coating operations when the control device was malfunctioning or not operating. [40 CFR 60.747(f), Minn. R. 7011.3100]</p>
	5.24.27		<p>Recordkeeping: The Permittee shall 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. [40 CFR 60.7(b), Minn. R. 7019.0100, subp. 1]</p>
	5.24.28		<p>Recordkeeping: The Permittee shall maintain a file of all measurements, maintenance, reports and records for at least five years. This requirement is more stringent than 40 CFR Section 60.7(f), which specifies two years. [40 CFR 60.7(f), Minn. R. 7007.0800, subp. 5(C), Minn. R. 7019.0100, subp. 1]</p>
	5.24.29		<p>Reports shall be postmarked within 30 days of the end of the reporting period. [40 CFR 60.747(g), Minn. R. 7011.3100]</p>
	5.24.30		<p>No owner or operator shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. [40 CFR 60.12, Minn. R. 7011.0050]</p>
TREA 9		Polysulfone Pilot Line Coater Water Bath Tanks	
	5.25.1		<p>The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Volatile Organic Compounds \geq 90.0 percent control efficiency. [Minn. R. 7011.3100, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]</p>
	5.25.2		<p>The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for HAPs - Single \geq 90.0 percent control efficiency. [Title I Condition: Avoid major source under 40 CFR 63.2]</p>
	5.25.3		<p>Temperature, Water (F) \geq degrees Fahrenheit (to be determined) 1-hour block average in the quench tank as determined during the Initial Performance test unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the quench tank temperature recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency is demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. The limit shall be determined from the test using the minimum of three 1-hour block average temperatures from three test runs where temperatures are recorded every minute.</p> <p>If the recorded 1-hour block average temperature is below the minimum</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>temperature limit, the VOC used during that time shall be considered uncontrolled until the average temperature is above the minimum temperature limit. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63]</p>
	5.25.4		<p>Temperature, Water (F) >= degrees Fahrenheit (to be determined) 1-hour block average in the final tank as determined during the Initial Performance test unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the final tank temperature recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency is demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. The limit shall be determined from the test using the minimum of three 1-hour block average temperatures from three test runs where temperatures are recorded every minute.</p> <p>If the recorded 1-hour block average temperature is below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average temperature is above the minimum temperature limit." [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63]</p>
	5.25.5		<p>Water flow rate >= gallons per minute (to be determined) 1-hour block average in the quench tank as determined during the Initial Performance test unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the quench tank water flow rate recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency is demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. The limit shall be determined from the test using the minimum of three 1-hour block average water flow rates from three test runs where water flow rates are recorded every minute.</p> <p>If the recorded 1-hour block average water flow rate is below the minimum water flow rate limit, the VOC used during that time shall be considered uncontrolled until the average water flow rate is above the minimum water flow rate. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63]</p>
	5.25.6		<p>Water flow rate >= gallons per minute (to be determined) 1-hour block average in the final tank as determined during the Initial Performance test unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the final tank water flow rate recorded during the most recent MPCA-approved performance test where compliance for VOC control efficiency is demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. The limit shall be determined from the test using the minimum of three 1-hour block average water flow rates from three test runs where water flow rates are recorded every minute.</p> <p>If the recorded 1-hour block average water flow rate is below the</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			minimum water flow rate limit, the VOC used during that time shall be considered uncontrolled until the average water flow rate is above the minimum water flow rate. [40 CFR 60.746(a), Title I Condition: Avoid major source under 40 CFR 63]
	5.25.7		Water levels must be maintained in the water bath tanks and the high-level sensor must be wet at the start and at all time during the run when substrate is being coated with a polymer solution. The water level condition will be recorded each day in data systems the coater operates. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.25.8		The concentration of solvent (DMF) in the first water bath shall not exceed 20% by weight. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.25.9		The Permittee shall operate and maintain all of the water bath tanks at all times that any emission unit controlled by the water bath tanks is in operation. The Permittee shall document periods of non-operation of the water bath tanks when the coating pump is operating. [Title I Condition: Avoid major source under 40 CFR 63.2, Title I Condition: Avoid major source under 40 CFR 63.21(b)(1)(i) & Minn. R. 7007.3000, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.25.10		The Permittee shall operate and maintain the water bath tanks 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]
	5.25.11		Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording coating application rate, water bath temperatures, water flows, and high water levels as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored water bath tanks are in operation. [Minn. R. 7007.0800, subp. 4, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.25.12		Daily Recordkeeping: The Permittee shall record the quench and final tank temperatures and flow rates, each minute, when the coater line is in operation. At the end of each hour of operation, the Permittee shall calculate the quench and final tank temperatures and flow rates in a 1-hour block average. [Minn. R. 7007.0800, 4-5, Title I Condition: Avoid major source under 40 CFR 52, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.25.13		Daily Recordkeeping (temperature). On each day of operation, the Permittee shall record and maintain a record of the water bath temperature in the first and final bath. The Permittee shall record the time and date of each water bath temperature reading. The 1 hour block average temperature in these baths will be daily recorded and calculated (electronic data system) and compared to the 1 hour block average

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			temperature requirement and whether or not the recorded water temperature was within the operating parameter specified in this permit. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major modification under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.25.14		Daily Recordkeeping (flow rates). On each day of operation, the Permittee shall record and maintain a record of the water flow rates into the first and final bath. The Permittee shall record the time and date of each water bath flow rate reading. The 1 hour block average flow rate in these baths will be daily recorded and calculated (electronic data system) and compared to the 1 hour block average flow rate requirement and whether or not the recorded flow rates were within the operating parameter specified in this permit. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.25.15		Recordkeeping of the Water High-level Sensor. On each day of operation, the Permittee shall record the time and date of each water high-level sensor as either wet or dry in the first and last tank during the coating operation. A record will be kept, daily, of these dates and times of the sensors being wet during the entire day or list the times if a sensor indicated dry during the run. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.25.16		Weekly Sampling: The Permittee shall conduct sampling, every week, to measure DMF solvent concentration, unless the Polysulfone Pilot Line has not been in operation during 7 consecutive days in a way to condition the water bath for sampling. The first water bath tank shall be sampled and analyzed to verify the DMF concentration using a method based on EPA Method 8015B or an equivalent method as approved by the MPCA. The water sample analysis may be conducted at the facility's on-site lab. A log indicating Polysulfone Pilot Coater daily operation status shall be kept on site. The longest run of the 7 day period will be sampled. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	5.25.17		Recordkeeping of the Sampling: The Permittee shall record and maintain a record of the measured DMF concentration. The Permittee shall record the time and date of each water bath concentration measurement and whether or not the recorded DMF concentration was within the operating parameter specified in this permit. Concentration measurements will be recorded along with the average tank water level, flow rate, and temperature for the 60 minutes prior to the sampling time. [Minn. R. 7007.0800, subps. 4-5, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, Title I Condition: Avoid major source under 40 CFR 63.2, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.25.18		<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"> - the water bath levels are outside the required operating range; - the water flow rates into the baths are outside the required operating range; - the recorded water bath temperatures are outside the required operating range; - the concentration of DMF in the first tank is outside the range specified in this permit; or - the water bath tanks or any of its components are found during the inspections to need repair. <p>Corrective actions shall return the water bath tanks to within the permitted range(s) 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 & M Plan for the water bath tanks. The Permittee shall keep a record of the type and date of any corrective action taken for the water tank baths. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]</p>
	5.25.19		<p>VOC control efficiency compliance shall be demonstrated using the using found in Appendix E. [Minn. R. 7007.0800, 2]</p>
	5.25.20		<p>HAP control efficiency compliance shall be demonstrated using the using found in Appendix E. [Minn. R. 7007.0800, 2]</p>
	5.25.21		<p>Periodic Inspections: At least once per calendar quarter or at a lesser frequency recommended by the manufacturer, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subps. 4-5]</p>
	5.25.22		<p>Annual Calibration: The Permittee shall calibrate the monitoring equipment at least annually and shall maintain a written record of the calibration and any action resulting from the calibration. [Minn. R. 7007.0800, subp. 14, Minn. R. 7007.0800, subp. 2]</p>
	5.25.23		<p>The Permittee shall submit the performance test data and results to the Administrator as specified in 40 CFR Section 60.8(a). [40 CFR 60.747(a), Minn. R. 7011.3100]</p>
	5.25.24		<p>The Permittee shall submit the following with the reports required under 40 CFR Section 60.747(d):</p> <ol style="list-style-type: none"> 1. All periods during actual mixing or coating operations when a required monitoring device (if any) was malfunctioning or not operating; and 2. All periods during actual mixing or coating operations when the control device was malfunctioning or not operating. [40 CFR 60.747(f), Minn. R. 7011.3100]
	5.25.25		<p>Recordkeeping: The Permittee shall 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. [40 CFR 60.7(b), Minn. R. 7019.0100, subp. 1]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
	5.25.26		Recordkeeping: The Permittee shall maintain a file of all measurements, maintenance, reports and records for at least five years. This requirement is more stringent than 40 CFR Section 60.7(f), which specifies two years. [40 CFR 60.7(f), Minn. R. 7007.0800, subp. 5(C), Minn. R. 7019.0100, subp. 1]
	5.25.27		Reports shall be postmarked within 30 days of the end of the reporting period. [40 CFR 60.747(g), Minn. R. 7011.3100]
	5.25.28		No owner or operator shall build, erect, install, or use any article, machine, equipment, or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. [40 CFR 60.12, Minn. R. 7011.0050]

6. Submittal/action requirements

This section lists most of the submittals required by this permit. Please note that some submittal requirements may appear in the Limits and Other Requirements section, or, if applicable, within a Compliance Schedule section.

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
TFAC 1	05300834	GE Osmonics Inc	
	6.1.1		The Permittee shall submit an application for permit reissuance : Due 180 calendar days before Permit Expiration Date. [Minn. R. 7007.0400, subp. 2]
	6.1.2		The Permittee shall submit a semiannual deviations report : Due semiannually, by the 30th of January and July The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations. [Minn. R. 7007.0800, subp. 6(A)(2)]
	6.1.3		The Permittee shall submit a compliance certification : Due annually, by the 31st of January (for the previous calendar year). The Permittee shall submit this to the Commissioner on a form approved by the Commissioner. This report covers all deviations experienced during the calendar year. [Minn. R. 7007.0800, subp. 6(C)]
	6.1.4		submit an annual report : Due annually, by the 30th of January The report shall describe the changes made at the facility during the previous calendar year using the latest MPCA application forms GI-04, GI-05A, and GI-05B as applicable. The report shall include the emission unit (EQUI), stack (STRU) and control equipment (TEA) data for any new or replaced units or control devices. The report shall document the VOC and HAPs 12-month rolling sum calculations for the previous year. The report shall be submitted with the annual Compliance Certification listed in Section 6, TRAC 1 of this permit. As part of the Annual report, the Permittee shall verify and certify that the facility has maintained

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			minor source status for New Source Review. [Minn. R. 7007.0800, 2, 5 and 6]
EQUI 7	EU001	Coater 2	
	6.2.1		<p>Performance Test: due before 60 months following permit issuance to measure VOC capture efficiency of water bath in EQUI 7, not to exceed 60 months between test dates.</p> <p>The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 24, or other method approved by MPCA in the performance test plan approval. conduct performance test : Due by the end of each calendar five years following permit issuance. [40 CFR 60.8(a), 40 CFR 63.7, Minn. R. 7017.2020, subp. 1]</p>
	6.2.2		<p>Performance Test: due before 60 months following permit issuance to measure HAP capture efficiency of water bath in EQUI 7, not to exceed 60 months between test dates.</p> <p>The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 18, 320, or other method approved by MPCA in the performance test plan approval. conduct performance test : Due by the end of each calendar five years following permit issuance. [40 CFR 60.8(a), 40 CFR 63.7, Minn. R. 7017.2020, subp. 1]</p>
EQUI 8	EU002	Coater 8	
	6.3.1		<p>Performance Test: due before 60 months following permit issuance to measure VOC capture efficiency of water bath in EQUI 8, not to exceed 60 months between test dates.</p> <p>The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 24, or other method approved by MPCA in the performance test plan approval. conduct performance test : Due by the end of each calendar five years following permit issuance. [40 CFR 60.8(a), 40 CFR 63.7, Minn. R. 7017.2020, subp. 1]</p>
	6.3.2		<p>Performance Test: due before 60 months following permit issuance to measure HAP capture efficiency of water bath in EQUI 8, not to exceed 60 months between test dates.</p> <p>The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 18, 320, or other method approved by MPCA in the performance test plan approval. conduct performance test : Due by the end of each calendar five years following permit issuance. [40 CFR 60.8(a), 40 CFR 63.7, Minn. R. 7017.2020, subp. 1]</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
EQUI 20	EU008	Phase III Generator	
	6.4.1		Notification: due 60 days before Performance Test The CMS Performance Evaluation notification is due simultaneously with the Notification of Intent to conduct a performance test.This notification is due simultaneously with the Notification of Intent to conduct a performance test. [Minn. R. 7011.8150, ,]
	6.4.2		Semiannual Compliance Report: due 31 days after end of each calendar half-year starting 05/03/2013. The Report shall cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Each subsequent Compliance report shall be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. [Minn. R. 7011.8150,]
	6.4.3		Performance Test: due before end of each 36 months starting 05/03/2013 or due before end of each 8,760 hours of operation following the initial performance test, whichever comes first to measure CO emissions. The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 10, or other method approved by MPCA in the performance test plan approval. The first subsequent performance test is due 36 months or 8,760 hours of operation (whichever comes first) after the initial performance test. Subsequent testing shall be conducted to determine CO reduction according to the requirements of 40 CFR pt. 63, subp. ZZZZ, Tables 3 and 4, and 40 CFR Section 63.6620. [40 CFR 63.6620, Minn. R. 7011.8150, ,]
STRU 40	SV042	Thin Film Pilot Coater Dryer #1 Exhaust	
	6.5.1		Performance test: conduct a performance test : Due by one year after the initiation of operation date to measure VOC emissions from STRU 40. The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 18, 25A, 320, or other method approved by MPCA in the performance test review. [Minn. R. 7017.2020, subp. 1]

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
TREA 2	CE001	Thermal Oxidizer	
	6.6.1		<p>Performance Test: due before end of each 60 months starting 09/15/2010 to measure VOC destruction efficiency in TREA 2, not to exceed 60 months between test dates.</p> <p>The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 18, 25A, 320, or other method approved by MPCA in the performance test plan approval. conduct performance test : Due by the end of each calendar five years following permit issuance. [40 CFR 60.8(a), 40 CFR 63.7, Minn. R. 7017.2020, subp. 1]</p>
	6.6.2		<p>Performance Test: due before end of each 60 months starting 09/15/2010 to measure HAP destruction efficiency in TREA 2, not to exceed 60 months between test dates.</p> <p>The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 18, 320, or other method approved by MPCA in the performance test plan approval. conduct performance test : Due by the end of each calendar five years following permit issuance. [40 CFR 60.8(a), 40 CFR 63.7, Minn. R. 7017.2020, subp. 1]</p>
TREA 6	CE006	Thermal Oxidizer	
	6.7.1		<p>Initial Performance Test: due 180 days after Initial Startup to measure VOC destruction efficiency in TREA 6.</p> <p>The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 18, 25A, 320, or other method approved by MPCA in the performance test plan approval. [40 CFR 60.8(a), 40 CFR 63.7, Minn. R. 7017.2020, subp. 1]</p>
	6.7.2		<p>Initial Performance Test: due 180 days after Initial Startup to measure HAP destruction efficiency in TREA 6.</p> <p>The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2005, subp. 8, using EPA Reference Method 18, 320, or other method approved by MPCA in the performance test plan approval. [40 CFR 60.8(a), 40 CFR 63.7, Minn. R. 7017.2020, subp. 1]</p>
TREA 8		Coater 7 Water Bath Tanks	
	6.8.1		<p>The Permittee shall submit a notification of any physical or operational change which increases the emission rate: due 60 days (or as soon as practical) before the change is commenced. [40 CFR 60.7(a)(4), Minn. R. 7019.0100, subp. 1]</p>
	6.8.2		<p>Volatile Organic Compounds: The Permittee shall conduct a</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			<p>performance test: Due before 01/25/2022 every 60 months to measure emissions. The first test is due by the date specified and all subsequent tests are due by the end of each 60-month period following that date. The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2025, subp. 2, using a method approved by MPCA in the performance test plan approval.</p> <p>Performance Test of the water baths will follow the conditioning requirements above. The Performance Test will be evaluated on three hours of line operations. Samples will be collected at the end of each hour. An hour will separate each of the 3 sampling events. Each water bath will be sampled and the wastewater discharge will also be sampled.</p> <p>Testing conducted during the 60 days prior to the performance test due date satisfies the performance test due date, and will not reset the test due date for future testing as required: 1) by this permit; 2) by the most recently approved Performance Test Frequency Plan; or 3) within a Notice of Compliance letter. Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement and will reset the performance test due date. [Minn. R. 7017.2020, subp. 1, 40 CFR 60.746(a)]. [40 CFR 60.746(a), Minn. R. 7017.2020, subp. 1]</p>
	6.8.3		<p>HAPs: The Permittee shall conduct a performance test: Due before 01/25/2022 every 60 months to measure emissions. The first test is due by the date specified and all subsequent tests are due by the end of each 60-month period following that date. The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2025, subp. 2, using a method approved by MPCA in the performance test plan approval.</p> <p>Performance Test of the water baths will follow the conditioning requirements above. The Performance Test will be evaluated on three hours of line operations. Samples will be collected at the end of each hour. An hour will separate each of the 3 sampling events. Each water bath will be sampled and the wastewater discharge will also be sampled.</p> <p>Testing conducted during the 60 days prior to the performance test due date satisfies the performance test due date, and will not reset the test due date for future testing as required: 1) by this permit; 2) by the most recently approved Performance Test Frequency Plan; or 3) within a Notice of Compliance letter. Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement and will reset the performance test due date. [Minn. R. 7017.2020, subp. 1, Title I Condition:</p>

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			Avoid major source under 40 CFR 63.2]
TREA 9		Polysulfone Pilot Line Coater Water Bath Tanks	
	6.9.1		The Permittee shall submit a notification of date construction began: Due 30 calendar days after Date of Construction Start. Submit the name and number of the Subject Item and the date construction began. [40 CFR 60.7(a)(1), Minn. R. 7019.0100, subp. 1]
	6.9.2		The Permittee shall submit a notification of the actual date of initial startup: Due 15 calendar days after Initial Startup Date. [40 CFR 60.7(a)(3), Minn. R. 7019.0100, subp. 1]
	6.9.3		The Permittee shall submit a notification of any physical or operational change which increases the emission rate: due 60 days (or as soon as practical) before the change is commenced. [40 CFR 60.7(a)(4), Minn. R. 7019.0100, subp. 1]
	6.9.4		<p>Volatile Organic Compounds: The Permittee shall conduct an initial performance test: Due 180 calendar days after Permit Issuance Date to verify VOC control efficiency. The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2025, subp. 2, using a method approved by MPCA in the performance test plan approval.</p> <p>Testing conducted during the 60 days prior to the performance test due date satisfies the performance test due date, and will not reset the test due date for future testing as required:</p> <ol style="list-style-type: none"> 1) by this permit; 2) by the most recently approved Performance Test Frequency Plan; or 3) within a Notice of Compliance letter. Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement and will reset the performance test due date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]
	6.9.5		<p>Volatile Organic Compounds: The Permittee shall submit a test frequency plan for Volatile Organic Compounds: Due 60 calendar days after Initial Performance Test Date for VOC emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on 12-month, 36-month, or 60-month intervals, or as applicable, shall be required upon written approval of the MPCA. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)i, To avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200]</p>
	6.9.6		HAPs: The Permittee shall conduct an initial performance test: Due 180 calendar days after Permit Issuance Date to verify HAP

Subject Item	Sec.SI.Reqt	SI des:SI desc	Requirement & Citation
			control efficiency. The performance test shall be conducted at worst case conditions as defined at Minn. R. 7017.2025, subp. 2, using a method approved by MPCA in the performance test plan approval. Testing conducted during the 60 days prior to the performance test due date satisfies the performance test due date, and will not reset the test due date for future testing as required: 1) by this permit; 2) by the most recently approved Performance Test Frequency Plan; or 3) within a Notice of Compliance letter. Testing conducted more than two months prior to the performance test due date satisfies this test due date requirement and will reset the performance test due date. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]
	6.9.7		HAPs: The Permittee shall submit a test frequency plan for HAPs: Due 60 calendar days after Initial Performance Test Date for HAP emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on 12-month, 36-month, or 60-month intervals, or as applicable, shall be required upon written approval of the MPCA. [Minn. R. 7017.2020, subp. 1, Title I Condition: Avoid major source under 40 CFR 63.2]

7. Appendices

Appendix A. Insignificant Activities and General Applicable Requirements

The table below lists the insignificant activities that are currently at the Facility and their associated general applicable requirements.

Minn. R.	Rule description of the activity	General applicable requirement
Minn. R. 7007.1300, subp. 3(A)	Fuel Use: space heaters fueled by kerosene, natural gas, or propane, less than 420,000 Btu/hr	PM <= 0.6 or 0.4 lb/MMBtu, depending on year constructed Opacity <= 20% with exceptions (Minn. R. 7011.0510/0515)
Minn. R. 7007.1300, subp. 3(B)(2)	Indirect heating equipment with a capacity less than 420,000 Btu/hour, etc.	PM <= 0.6 or 0.4, depending on year constructed Opacity <= 20% with exceptions (Minn. R. 7011.0510/0515)
Minn. R. 7007.1300, subp. 3(E)(2)	Nonhazardous air pollutant VOC storage tanks with total capacity not more than 10,000 gallons meeting certain vapor pressure requirements	Minn. R. 7011.1505, subp. 2(B)/1505, subp. 3(B)
Minn. R. 7007.1300, subp.	Brazing, soldering or welding equipment	PM, variable depending on airflow

Minn. R.	Rule description of the activity	General applicable requirement
3(H)(3)		Opacity <= 20% (Minn. R. 7011.0710/0715)
Minn. R. 7007.1300, subp. 3(l)	Individual units with potential emissions less than 2000 lb/year of certain pollutants	(Minn. R. 7001.0510/0515; Minn. R. 7011.0610; Minn. R. 7011.0710/0715)
Minn. R. 7007.1300, subp. 3(K)	Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0710/0715)
Minn. R. 7007.1300, subp. 4	Individual units with potential or actual emissions meeting the criteria in Minn. R. 7007.1300, subp. 4(A)-(D)	(Minn. R. 7011.0510/0515; Minn. R. 7011.0610)
Minn. R. 7008.4110	Equipment venting PM/PM10 inside a building, provided that emissions from the equipment are: a). filtered through an air cleaning system; and b). vented inside of the building 100% of the time	PM, variable depending on airflow Opacity <= 20% (Minn. R. 7011.0710/0715)

The following units do qualify as insignificant activities and are represented in the permit as EU026. The aggregate emissions from these units are significant and their applicable requirements reside within the permit at EU 026 - HVAC and Makeup Air Units (91 units), Total 26.7 MMBtu/hr. They are shown here as an itemized list of space heaters, boilers, and furnaces currently at the facility.

Equipment Description	Design Capacity (Btu/hr)	Minn. R. 7007.1300, subpart
#1 Trane RTU	205,000	3(A)
#2 Lennox RTU	235,000	3(A)
#3 Carrier RTU	224,000	3(A)
#4 Trane RTU	100,000	3(A)
#5 Modine RTU	937,500	3(A)
#8 Carrier RTU	74,000	3(A)
#9 Trane RTU	205,000	3(A)
#10 Trane RTU	300,000	3(A)
#11 Carrier RTU	74,000	3(A)
#12 Carrier RTU	115,000	3(A)
#13 Carrier RTU	115,000	3(A)
#17 Ind Air Syst MAU	550,000	3(A)
AHU 1 Lennox	80,000	3(A)
AHU 2 Lennox	80,000	3(A)

Equipment Description	Design Capacity (Btu/hr)	Minn. R. 7007.1300, subpart
#1 Carrier RTU	74,000	3(A)
#2 Lennox RTU	235,000	3(A)
#3 Lennox RTU	235,000	3(A)
#5 App Air Sys MAU	440,000	3(A)
#9 Trane RTU	205,000	3(A)
#10 Ind Air Sys MAU	820,800	3(A)
#11 Lennox RTU	235,000	3(A)
#12 Carrier RTU	180,000	3(A)
#15 Lennox RTU	235,000	3(A)
#16 Ind Air Sys MAU	594,000	3(A)
#20 Trane RTU	205,000	3(A)
#5 Trane RTU	205,000	3(A)
#6 Trane RTU	250,000	3(A)
#7 Lennox RTU	125,000	3(A)
#8 Lennox RTU	78,000	3(A)
#9 Lennox RTU	125,000	3(A)
AHU 1 Reznor	100,000	3(A)
AHU 2 Reznor	100,000	3(A)
AHU 3 Reznor	100,000	3(A)
AHU 4 Reznor	80,000	3(A)
#2 Modine RTU	937,500	3(A)
#4 Trane RTU	125,000	3(A)
#5 Trane RTU	125,000	3(A)
#6 Carrier RTU	180,000	3(A)
#7 Carrier RTU	224,000	3(A)
#9 Ind Air Sys MAU	937,500	3(A)
#10 Carrier RTU	180,000	3(A)
#11 Lennox RTU	125,000	3(A)
#13 Trane RTU	300,000	3(A)
#14 Carrier RTU	80,000	3(A)
#15 Carrier RTU	180,000	3(A)
#16 Carrier RTU	115,000	3(A)
#17 Trane RTU	250,000	3(A)
#18 Ind Air Sys MAU	533,000	3(A)
#20 Lennox RTU	235,000	3(A)

Equipment Description	Design Capacity (Btu/hr)	Minn. R. 7007.1300, subpart
#21 App Air Sys MAU	1,650,000	3(A)
Radiant Space Heaters (2)	80,000	3(A)
Space Heaters (6) - Re Verber Rey	600,000	3(A)
Unit Heater - Trash Room	60,000	3(A)
#6 Ind Air Sys MAU - coater dryer	324,000	3(B)(2)
#14 Ind Air Sys MAU - coater dryer	324,000	3(B)(2)
#17 Ind Air Sys MAU for R&D Coater A Dryer	270,000	3(B)(2)
Hot Water Boiler 11101 - Sidewalk Snowmelt	400,000	3(B)(2)
Hot Water Boiler - Sidewalk Snowmelt	400,000	3(B)(2)
Hot Water Boilers (2) - Process Tanks	350,000	3(B)(2)
Water Heater	200,000	3(B)(2)
4" Element Dryers (2)	816,000	3(B)(2)
8" Element Dryers (2)	816,000	3(B)(2)
Water Heater	200,000	3(B)(2)
Rheem Hot Water Heater	300,000	3(B)(2)
#1 Trane RTU	850,000	3(A)
#2 Trane RTU	850,000	3(A)
#3 Trane RTU	850,000	3(A)
#7 Trane RTU	250,000	3(A)
Ind Air Sys MAU	1,620,000	3(A)
Hot Water Boiler 11103	200,000	3(B)(2)
Hot Water Boiler 11104	200,000	3(B)(2)
Hot Water Boiler 11105	200,000	3(B)(2)
Hot Water Boiler 11106	200,000	3(B)(2)
Wash Area Water Heater	40,000	3(B)(2)
Wash Area Wash Tank Heater	380,000	3(B)(2)
Loading Dock Unit Heater (2)	160,000	3(A)
Phase IV AHU (2)	700,000	3(A)
Units for Pilot Coater Dryers (3)	1,000,000	3(B)(2)
Group Total	26.73 MMBtu/hr	

APPENDIX B

Equations used for Permit Cap

Facility Name: GE Osmonics Inc
 Permit Number: 05300834-005

The equations listed below are referenced in Table A of the permit.

Control Efficiency (E):

$$E(\%) = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^n Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}} \cdot 100\% \quad \text{Equation 1}$$

Average inward face velocity (FV):

$$FV(\text{meters/hr}) = \frac{\sum_{j=1}^n Q_{out,j} - \sum_{i=1}^p Q_{in,i}}{\sum_{k=1}^g A_k} \quad \text{Equation 2}$$

Where:

- A_k (square meters) = the area of each natural draft opening (k) in a total enclosure
 - Q_{aj}¹ = the volumetric flow rate of each gas stream (j) exiting the emission control device.
 - Q_{bi}¹ = the volumetric flow rate of each gas stream (i) entering the emission control device.
 - Q_{out,j}¹ = the volumetric flow rate of each gas stream (j) exiting the total enclosure through an exhaust duct or hood.
 - Q_{in,i}¹ = the volumetric flow rate of each gas stream (i) entering the total enclosure through a forced makeup air duct.
 - C_{aj} (ppm by volume) = the concentration of VOC in each gas stream (j) exiting the emission control device.
 - C_{bi} (ppm by volume) = the concentration of VOC in each gas stream (i) entering the emission control device.
- [1] units on Q: (dry standard cubic meters per hour) when using Method 18 or 25 to measure VOC concentration, or
 (standard cubic meters per hour (wet basis)) when using Method 25A to measure VOC concentration.

VOC Emissions:

$$VOC = \sum_{i=1}^n A_{VOC,i} B_{VOC,i} - \sum_{j=1}^m C_{VOC,j} D_{VOC,j} - WW_{VOC} \frac{E}{100\%} \quad \text{Equation 3}$$

HAP Emissions

$$HAP = \sum_{i=1}^n A_{HAP,i} B_{HAP,i} - \sum_{j=1}^m C_{HAP,j} D_{HAP,j} - WW_{HAP} \frac{E}{100\%} \quad \text{Equation 4}$$

Where:

$A_{VOC,i} / A_{HAP,i}$ (tons/month) = Amount of each VOC/HAP containing material (i) used.

$B_{VOC,i} / B_{HAP,i}$ (fraction) = Weight percent of VOC/HAP material in $A_{VOC,i} / A_{HAP,i}$.

$C_{VOC,j} / C_{HAP,i}$ (tons/month) = Amount of each VOC/HAP containing waste material (j) shipped.

If the Permittee chooses to not take credit for waste shipments, this parameter would be zero.

$D_{VOC,j} / D_{HAP,i}$ (fraction) = Weight percent of VOC/HAP material $C_{VOC,j} / C_{HAP,i}$.

WW_{VOC} / WW_{HAP} = Amount of VOC/HAP that partitions to the wastewater stream.

E = Control Efficiency from Equation 1.

APPENDIX C

Maximum Capacity and Content of Materials

Facility Name: GE Osmonics

Permit Number: 05300834-005

The following table lists maximum material contents and application rates for each specified unit. All contents are "as applied." These are worst case assumptions. Changing to a material that has a higher content of any of the given pollutants is considered a change in method of operation.

Emission Unit	Name	Maximum Material Content		Application Rate
		HAPs Content %	VOC Content %	
EU001	Coater 2	83%	83%	40 ft/min
EU002	Coater 8	59%	59%	12 ft/min
EU006	Coater 9	7%	100%	100 ft/min
EU007	Phase I Emergency Generator	Diesel Fuel	-	1.48 MMBtu/Hr
EU008	Phase III Generator	Diesel Fuel	-	2.25 MMBtu/Hr
EU009	Equipment Paint Booth	59%	95%	20 oz/min
EU012	IPA Vat	-	100%	272 lbs/month
EU013	IPA Cleaning	-	100%	2.08 lbs/hr
EU014	Polypropylene Processing Line 1	0.004%	0.08%	176 lb/hr
EU015	Polypropylene Processing Line 2	0.004%	0.08%	220 lb/hr
EU016	Polypropylene Processing Line 3	0.004%	0.08%	176 lb/hr
EU017	Polypropylene Processing Line 4	0.004%	0.08%	220 lb/hr
EU018	Polypropylene Processing Line 5	0.004%	0.08%	220 lb/hr
EU019	Polypropylene Processing Line 6	0.004%	0.08%	330 lb/hr
EU020	Coater 9 Dryer Zones	Natural Gas	-	4.0 MMBtu/hr
EU021	Coater 9 Hot Water Boiler 1	Natural Gas	-	1.0 MMBtu/hr
EU022	Coater 9 Hot Water Boiler 2	Natural Gas	-	1.0 MMBtu/hr
EU023	Coater 9 Hot Water Boiler 3	Natural Gas	-	1.0 MMBtu/hr

EU024	Coater 9 Final Dryer Zones	Natural Gas	-	6.0 MMBtu/hr
EU025	Regenerative Thermal Oxidizer	Natural Gas	-	1.10 MMBtu/hr
EU026	HVAC and Makeup Air Units	Natural Gas	-	29.2 MMBtu/hr
EU027	Coater 7	83%	83%	200 ft/min
EU028	Paint Booth 2 & Solvent Cleaning	2%	79%	20 oz/min
EU029	IPA Sparging System	7%	15%	1 gpm
EU030	Coater 10 - Pre-Dryer	Natural Gas	-	1.5 MMBtu/hr
EU031	Coater 10 - Dryer 1	Natural Gas	-	2.4 MMBtu/hr
EU032	Coater 10 - Dryer 2	Natural Gas	-	1.5 MMBtu/hr
EU033	Coater 10 - Coating Process	4%	4%	50 ft/min
EU034	RTO2	Natural Gas	-	2.33 MMBtu/hr
EU036	Coater 11 Process	30%	100%	100 ft/min
EU036	Coater 11 Process	Natural Gas	-	6.05 MMBtu/hr
EU037	Coater 11 Final Dryer	Natural Gas	-	2.75 MMBtu/hr
EU039	Thin Film Pilot Coater – Dryer #1	Natural Gas	-	3.0 MMBtu/hr
EU040	Thin Film Pilot Coater – Dryer #2	Natural Gas	-	1.0 MMBtu/hr
EU041	Thin Film Pilot Coater Enclosure	84%	84%	145 ft/min
EU042	Polysulfone Pilot Coater	84%	84%	TBD ft/min

APPENDIX D

40 CFR § 63.6620(e) Equations for Carbon Monoxide Performance Testing Requirements and Procedures

Facility Name: GE Osmonics

Permit Number: 05300834-005

40 CFR Section 63.6620(e) Equations for Carbon Monoxide Performance Testing Requirements and Procedures

(1) The Permittee must use Equation 1 to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

C_i = Concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet;

C_o = concentration of CO, THC, or formaldehyde at the control device outlet, and

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) The Permittee must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO₂). If pollutant concentrations are to be corrected to 15 percent oxygen and CO₂ concentration is measured in lieu of oxygen concentration measurement, a CO₂ correction factor is needed. Calculate the CO₂ correction factor as described in paragraphs (2)(i) below:

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO₂ volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm³/J (dscf/10⁶ Btu).

(ii) Calculate the CO₂ correction factor for correcting measurement data to 15 percent O₂, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

X_{CO_2} = CO₂ correction factor, percent.

5.9 = 20.9 percent O₂ – 15 percent O₂, the defined O₂ correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O₂ using CO₂ as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 4})$$

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O₂.

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{CO_2} = CO₂ correction factor, percent.

$\%CO_2$ = Measured CO₂ concentration measured, dry basis, percent.

APPENDIX E

Equation used for NSPS Subpart VVV

The Coater 7 and Thin film Pilot Coater shall use the following compliance demonstration equation:

Control Efficiency Equation

$$CE (w\%) = \frac{X - (Y_{wb} + Y_{ww})}{X} \times 100$$

X = Total weight of solvent in coating solution

Y_{wb} = Weight (concentration times volume) in water bath

Y_{ww} = Weight (concentration times volume) in wastewater