

AIR EMISSION PART 70 GENERAL PERMIT NO. 08900022-002
Part 70 Fiberglass General Permit
ISSUED TO

Nordic Fiberglass Inc.
Highway 75 South
Warren, Marshall County, Minnesota, 56762

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

This general permit supersedes Air Emission Permit No. 08900022-001 and authorizes the Permittee to construct and operate the stationary source under the conditions set forth herein. The Permittee must comply with all conditions of the permit, with all general conditions listed in Minn. R. 7007.0800, subp. 16, and with all standard permit requirements listed in 40 CFR Section 70.6(a). The stationary source may be modified or changed, but the stationary source as modified or changed shall meet all conditions of the permit at all times. If a modification or change to the stationary source would render it ineligible for this General Permit, the stationary source shall apply for and obtain an individual Part 70 or state permit before beginning actual construction of the modification or change. 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 State Implementation Plan under 40 CFR Section 52.1220 and as such are enforceable by the U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

Permit Type: Federal General, Part 70/Limits to Avoid NSR

Issue Date: April 5, 2010

Expiration: December 28, 2014*
All Title I Conditions do not expire.

* The Permittee can continue to operate this facility after the expiration date of this permit per provisions under Minn. R. 7007.0450, subp. 3.

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

for Paul Eger
Commissioner
Minnesota Pollution Control Agency

Permit Type	Application Date(s)	Permit Action
Part 70 Operating Permit Reissuance	10/13/05	002
Part 70 Fiberglass General Permit	2/1/10	002

Table of Contents

Notice to the Permittee

Permit Shield

Table A: Limits and Other Requirements

Table B: Submittals

Table C: Compliance Schedule

Appendices:

Appendix A: Source-Specific Calculations

Appendix B: Emission Worksheets and Emission Factors

Attached Forms: These forms are available at <http://www.pca.state.mn.us/air/permits/forms.html>

FGCR-04: Part 70 Fiberglass General Permit Annual Compliance Certification

FG-EIL: Part 70 Fiberglass General Permit Equipment Inventory List

FG-CMP: Part 70 Fiberglass General Permit Compliance Management Plan

GP-01: Administrative Changes Form

DFR-1: Deviations Recorded by Continuous Monitoring Systems

DFR-2: Deviations Identified by Periodic Monitoring Systems or Through Recordkeeping

4M-01: NESHAP Surface Coating of Miscellaneous Metals Parts and Products Initial Notification Form

4P-01: NESHAP Surface Coating of Plastic Parts Initial Notification Form

4W-01: NESHAP Reinforced Plastic Composites Production Initial Notification Form

4Z-01: NESHAP Reciprocating Internal Combustion Engines Initial Notification Form

NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	651-296-6300
Outside Metro Area	1-800-657-3864
TTY	651-282-5332

The rules governing these programs are contained in Minn. R. ch. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with specific provisions of the applicable requirements 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.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Table A contains the limits and other requirements with which your facility must comply. These limits are located in the first column of the table (What to do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices are included in your permit. Appendices that are included are listed at the end of Table A, under total facility requirements. Requirements in all appendices are enforceable conditions of this permit.

Subject Item:

Total Facility Requirements

What to do	Why to do it
A. GENERAL PERMIT SPECIFIC REQUIREMENTS	hdr
Labeling Requirements: The Permittee shall permanently affix the manufacturer's serial number to each piece of equipment for tracking purposes within 60 days of permit issuance, if applicable. If the serial number is not available, a unique number shall be assigned to the equipment. 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.	To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7007.0800, subp. 2
Equipment List Inventory: The Permittee shall maintain a written list of each piece of equipment on site, if applicable. The list shall include: date of revisions, the type of equipment, serial number (or assigned number if not available) and dates of installation, modification and reconstruction, all applicable Standards of Performance for New Stationary Sources for steam generating units (subpart Dc), for volatile organic liquid storage vessels (subpart Kb), for compression ignition internal combustion engines (subpart IIII) and for spark ignition internal combustion engines (subpart JJJJ) and all National Emission Standards for Hazardous Air Pollutants (NESHAP) for surface coating of miscellaneous metal parts and products (subpart MMMM), for surface coating of plastic parts (subpart PPPP), for reinforced plastic composites production (subpart WWWW), and for reciprocating internal combustion engines (subpart ZZZZ), if applicable. The list shall be updated to include any new, modified or changed equipment just before making a change. When the list is updated, the Permittee shall maintain copies of all previous equipment lists on site. Notation of these two evaluations shall be done before making every modification or change: In the notification: 1. Re-evaluate whether you still qualify for this general permit and 2. Re-evaluate whether you still are able to keep the 12-month rolling sum of your actual emissions below 90 tons for Particulate Matter (PM), Particulate Matter less than 10 micron in size (PM ₁₀), Particulate Matter less than 2.5 micron in size (PM _{2.5}), Nitrogen Oxides (NO _x), Carbon Monoxide (CO), Sulfur Dioxide (SO ₂), 240 tons for Volatile Organic Compounds (VOC) and 100 tons for Hazardous Air Pollutants (HAPs). If the answer is no to either then you must apply for a Part 70 permit that would authorize the modification or change and operation of the total stationary source before making the modification or change. <i>Use Form FG-EIL</i>	To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7007.0800, subp. 2

What to do	Why to do it
<p>Type of Emission Units Allowed: The stationary source shall not have any emission units other than the following process operations and emission units: spray guns, spraying and coating booths, molding, casting, lamination, mixing, cleaning, sanding, resin and gel coat, adhesive, fuel storage, boilers, catalytic or thermal afterburner, fabric filters, wall filters, flares, bag houses, internal combustion engine (generators), burn-off ovens, furnaces, ovens, dip tanks, soldering, welding, brazing, space heaters, storage tanks, screen printing, stenciling and/or any of the insignificant activities listed in Minn. R. 7007.1300 and/or conditionally insignificant activities listed in Minn. R. 7008.</p>	<p>To qualify for this general permit under Minn. R. 7007.1100, and Minn. R. 7007.0800, subp. 2</p>
<p>Lead Containing Materials Prohibited: The Permittee shall not use painting and coating materials that contain lead after 60 days of the issuance of this permit.</p>	<p>To qualify for this general permit under Minn. R. 7007.1100, and Minn. R. 7007.0800, subp. 2</p>
<p>Fuel Usage: The Permittee shall only use distillate oil (diesel), natural gas, biodiesel, liquid petroleum gas, and gasoline fuels in combustion sources.</p>	<p>To qualify for this general permit under Minn. R. 7007.1100, and Minn. R. 7007.0800, subp. 2</p>
<p>Fugitive Dust Control: The Permittee shall use water on unpaved roads to control fugitive particulate emissions.</p>	<p>To qualify for this general permit under Minn. R. 7007.1100; Minn. R. 7007.0800, subp. 2</p>
<p>Capture Efficiency Requirement for Particulate Matter Control Equipment: For spraying and coating operations, which are totally enclosed, the Permittee shall claim a capture efficiency of 100% of uncontrolled particulate matter emissions. Total enclosure means the spraying/coating is conducted in a booth or room with all doors, windows, and access opening closed, and a ventilation system in operation. One side or access opening may consist of a curtain of overlapping plastic panels or sliding doors.</p> <p>All partially enclosed spraying and coating operations shall use a capture efficiency of 80%.</p>	<p>To qualify for this general permit under Minn. R. 7007.1100; Minn. R. 7011.0060-0080</p>
<p>Hood Certification and Recordkeeping: If the control device does not have a total enclosure as defined in the above, the Permittee shall use a hood that conforms to the requirements listed in Minn. R. 7011.0072, subp. 2(B), and the Permittee shall certify this as specified in Minn. R. 7011.0072, subps. 2 and 3. The Permittee shall maintain a copy of the certification on site for five years, as well as the annual record of the fan rotation speed, fan power draw, or face velocity of each hood, or other comparable airflow indication for each hood and maintain a yearly summary of these measurements, if applicable.</p>	<p>To qualify for this general permit under Minn. R. 7007.1100; Minn. R. 7011.0060-0080; Minn. R. 7007.0800, subps. 4, 5, and 14</p>
<p>Compliance Management Plan: The Permittee shall submit to the MPCA the compliance management plan with 60 days of the issuance of this general permit. If the Permittee adds any new, modified or changed equipment, the Permittee will update this plan and submit it to the MPCA within seven days before the change. <i>Use Form FG-CMP.</i></p>	<p>To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7007.0800, subp. 2</p>

What to do	Why to do it
<p>Change of ownership or control of stationary source: The owner or operator shall submit to the MPCA the Air Emission General Permit Administrative Changes Form within 7 days of the name change of ownership or control of the stationary source. If the Commissioner determines that the new owner or operator meets the eligibility requirements of the general permit for general permit issuance, then the Commissioner shall issue the general permit to the new owner or operator. Issuance of a general permit to the new owner or operator of an eligible stationary source voids and supersedes the general permit of the previous owner or operator. If the Commissioner determines the new owner or operator does not meet the eligibility requirements, the new owner or operator shall submit a permit application for a state, or part 70 permit within 120 days of the Commissioner's written request for the application. <i>Use Form GP-01</i></p>	<p>To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7007.0800, subp. 2</p>
<p>New Source Performance Standards: If applicable, steam generating units (boilers), volatile organic liquid storage vessels (storage tanks), compression ignition internal combustion engines and spark ignition internal combustion engines (engines) at the stationary source shall comply with the NSPS.</p>	<p>40 CFR pt. 60, subps. Dc, Kb, IIII and JJJJ; Minn. R. 7011.0570, Minn. R. 7011.1520(C) and Minn. R. 7007.0800, subp. 2</p>
<p>National Emission Standards for Hazardous Air Pollutants: If applicable, the stationary source shall comply with the NESHAP standards for surface coating of miscellaneous parts and products, for surface coating for plastic parts, for reinforced plastic composites facilities, and for reciprocating internal combustion engines.</p> <p>Sources which are subject to any other NESHAP for a source category in 40 CFR pt. 63, or constructed or reconstructed major HAP sources under section 112(g) of the Clean Air Act, are not eligible for this general permit.</p>	<p>40 CFR pt. 63, subps. MMMM, PPPP, WWWW and ZZZZ; Minn. R. 7007.0800, subp. 2</p>

What to do	Why to do it
B. POLLUTANT LIMITS	hdr
Particulate Matter, Carbon Monoxide, Sulfur Dioxide, and Nitrogen Oxides: The Permittee shall not emit a 12-month rolling sum of more than 90 tons each of PM, PM ₁₀ , PM _{2.5} , CO, SO ₂ , and NO _x . (The PM/PM _{2.5} /PM ₁₀ emissions from the combustion sources were taken into account when determining the PM/PM _{2.5} /PM ₁₀ limit). See forms provided in Appendices A and B.	Title I Condition: Limit to avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000; To qualify for this general permit under Minn. R. 7007.1100
Organic Hazardous Air Pollutants: The Permittee shall not emit a 12-month rolling sum of more than 100 tons of Organic HAPs.	To qualify for this general permit under Minn. R. 7007.1100; 40 CFR Section 63.5805 Minn. R. 7011.7800
Volatile Organic Compounds: The Permittee shall not emit a 12-month rolling sum of more than 240 tons of VOCs. (The VOC emissions from the combustion sources were taken into account when determining the VOC limit.) See forms provided in Appendices A and B.	Title I Condition: Limit to avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000; To qualify for this general permit under Minn. R. 7007.1100
C. OPERATIONAL REQUIREMENTS	hdr
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
Air Pollution Control Equipment: The Permittee shall comply with the control equipment rule for all fabric filters, wall/panel filters, bag houses, catalytic and thermal oxidizers at the stationary source.	Minn. R. 7011.0060-0080; Minn. R. 7007.0800, subp. 2
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance (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. 14 and Minn. R. 7007.0800, subp. 16(J)

What to do	Why to do it
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
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)
Fugitive Emissions: The Permittee shall 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. The Permittee must also comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
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 federally enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010-7030.0080
General Conditions: The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
D. MONITORING REQUIREMENTS	hdr
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800 subp. 4 (D) and Minn. R. 7011.0075
Monitoring Equipment Calibration: Annually calibrate all monitoring equipment (any requirements apply to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring 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)
E. RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping: Retain all records at the stationary source for a period of 5 years from the date of monitoring, emission calculations, sampling, measurement, or reporting. Records which must be retained at the stationary source include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports and records 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 (A) and (C)
F. PERFORMANCE TESTING REQUIREMENT	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Table A, B, and /or C.	Minn. R. 7017.2001-7017.2060
G. REPORTING AND SUBMITTALS REQUIREMENTS	hdr
Equipment Inventory List: Due on before 31 days after end of each calendar year following permit issuance; <i>use Form FG-EIL.</i>	To qualify for this general permit under Minn. R. 7007.1100

What to do	Why to do it
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 through 7019.3010
Submittals: All submittals required by this permit must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Submittals which must be provided on forms approved by the Commissioner are noted in Tables A, B and/or C. All submittals must be postmarked or received by the date specified in the tables.	Minn. R. 7007.0800, subp. 6
Notification of Deviations Endangering Human Health or the Environment Report: As soon as possible after a discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviations from permit conditions which could endanger human health or the environment.	Minn. R. 7019. 1000, subp. 1
Notification of Deviations Endanger Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from the permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has not been corrected; 3. whether or not has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019. 1000 subp. 1
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of planned shutdown of any control equipment or process equipment if the shutdown would cause an increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B, and C of Minn. R. 7019.1000, subp. 3. At 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
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 would cause an increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B, and C of Minn. R. 7019.1000, subp. 2. At 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

What to do	Why to do it
Semiannual Deviations Report: Due 30 days after end of each calendar half-year. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit was issued. The first report of each calendar year covers January 1- June 30, due by July 30. The second report of each calendar year covers July 1- December 31, due by January 30. If no deviations have occurred, the Permittee shall submit the report stating no deviations. <i>To be submitted on form DRF-1 or DRF-2</i>	Minn. R. 7007.0800, subp. 6 (A)(2)
Risk Management Plan: The Permittee must submit a Risk Management Plan (RMP) under 40 CFR pt. 68. Each owner or operator of a stationary source, at which a regulated substance is present above a threshold quantity in a process, shall design and implement an accidental release prevention program. An initial RMP must be submitted no later than the latest of the following dates: 1) June 21, 1999; 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or 3) The date on which a regulated substance is first present above a threshold quantity in a process. A full update and resubmission of the RMP is required at least once every five years. The five-year anniversary date is reset whenever your facility fully updates and resubmits their RMP. Submit RMPs to the Risk Management Plan Reporting Center, P.O. Box 10162, Fairfax, VA 22038. RMP information may be obtained at http://www.epa.gov/emergencies/content/rmp/index.htm or by calling 1-800-424-9346.	40 CFR pt. 68
Emission Fees: Due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005-7002.0095
Annual Compliance Certification: due 31 days after end of each calendar year (January 31) following general permit issuance (for the previous calendar year). The report covers all deviations experienced during the calendar year. <i>Use Form FGCR-04.</i>	Minn. R. 7007.0800, subp. 6(C)

The tables in the general permit issued to individual sources include either the requirements for Air Quality Control Region (AQCR) 131 or for sources outside the AQCR 131, depending on the location of the source. The AQCR 131 comprises of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington Counties.

Boilers placed in operation after January 31, 1977, not subject to NSPS and located within the Minneapolis-St. Paul Air Quality Control Region (NEW INDIRECT HEATING STANDARDS)

Subject Item:	SV 100	Boilers (Maximum design heat input capacity of 100 MMBtu/hr)
---------------	--------	---

What to do	Why to do it
PM: less than or equal to 0.4 pounds per million BTU using a 3-hour rolling average	Minn. R. 7011.0515, subp. 1, and 7011.0550
SO ₂ : less than or equal to 1.6 pounds per million BTU using a 3-hour rolling average	Minn. R. 7011.0515, subp. 1, and 7011.0550
Opacity: less than or equal to 20% opacity; except for one-six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0515, subp. 2

Boilers placed in operation after January 31, 1977, not subject to NSPS and located outside the Minneapolis-St. Paul Air Quality Control Region (NEW INDIRECT HEATING STANDARDS).

Subject Item:	SV 100	Boilers (Maximum design heat input capacity of 100 MMBtu/hr)
---------------	--------	---

What to do	Why to do it
PM: less than or equal to 0.4 pounds per million BTU using a 3-hour rolling average	Minn. R. 7011.0515, subp. 1 and 7011.0550
SO ₂ : less than or equal to 2.0 pounds per million BTU using a 3-hour rolling average	Minn. R. 7011.0515, subp. 1 and 7011.0550
Opacity: less than or equal to 20% opacity; except for one-six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0515, subp. 2

Boilers placed in operation before January 31, 1977, not subject to NSPS, and located within the Minneapolis-St. Paul Air Quality Control Region (EXISTING INDIRECT HEATING STANDARDS)

Subject Item:	SV 100	Boilers (Maximum design heat input capacity of 100 MMBtu/hr)
---------------	--------	---

What to do	Why to do it
PM: less than or equal to 0.4 pounds per million BTU using a 3-hour rolling average	Minn. R. 7011.0510, subp. 1, and 7011.0545
SO ₂ : less than or equal to 1.6 pounds per million BTU using a 3-hour rolling average	Minn. R. 7011.0510, subp. 1, and 7011.0545
Opacity: less than or equal to 20% opacity except for one-six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2

Boilers placed in operation before January 31, 1977, not subject to NSPS, and located outside the Minneapolis-St. Paul Air Quality Control Region (EXISTING INDIRECT HEATING STANDARDS).

Subject Item:	SV 100	Boilers (Maximum design heat input capacity of 100 MMBtu/hr)
---------------	--------	---

What to do	Why to do it
PM: less than or equal to 0.4 pounds per million BTU using a 3-hour rolling average	Minn. R. 7011.0510, subp. 1 and 7011.0545
SO ₂ : less than or equal to 2.0 pounds per million BTU using a 3-hour rolling average	Minn. R. 7011.0510, subp. 1, and 7011.0545
Opacity: less than or equal to 20% opacity; except for one-six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2

Ovens and furnaces located within the Minneapolis-St. Paul Air Quality Control Region. (NEW AND EXISTING DIRECT HEATING STANDARDS)

Subject Item:	SV 200 300	Ovens Furnaces
---------------	------------------	-------------------

What to do	Why to do it
PM: less than or equal to 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. 7011.0700 to 7011.0735.	Minn. R. 7011.0610, subp. 1(A)(1)
Opacity: less than or equal to 20% opacity except for one-six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)(2)
SO ₂ : less than or equal to 2.0 pounds per million BTU using a 3-hour rolling average	Min. R. 7011.0610, subp. 2.A.(2)

Ovens and furnaces located outside the Minneapolis-St. Paul Air Quality Control Region. (NEW AND EXISTING DIRECT HEATING STANDARDS).

Subject Item:	SV 200 300	Ovens Furnaces
---------------	------------------	-------------------

What to do	Why to do it
PM: less than or equal to 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. 7011.0700 to 7011.0735.	Minn. R. 7011.0610, subp. 1(A)(1)
Opacity: less than or equal to 20% opacity except for one-six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)(2)
SO ₂ : less than or equal to 4.0 pounds per million BTU using a 3-hour rolling average	Minn. R. 7011.0610, subp. 2 (B)

Internal combustion engines located within the Minneapolis-St. Paul Air Quality Control Region

Subject Item:	SV 400	Internal Combustion Engines
---------------	--------	-----------------------------

What to do	Why to do it
SO ₂ : less than or equal to 0.5 pounds per million Btu actual heat input using a 3-hour rolling average.	Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20% opacity once operating temperature have been attained. (Visible air contaminants)	Minn. R. 7011.2300, subp. 1

Internal combustion engines located outside the Minneapolis-St. Paul Air Quality Control Region

Subject Item:	SV 400	Internal Combustion Engines
---------------	--------	-----------------------------

What to do	Why to do it
SO ₂ : less than or equal to 0.5 pounds per million Btu actual heat input using a 3-hour rolling average.	Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20% opacity once operating temperature have been attained. (Visible air contaminants)	Minn. R. 7011.2300, subp. 1

Booths placed in operation before July 9, 1969. (EXISTING PROCESS EQUIPMENT)

Subject Item:	SV 500	Booths
---------------	--------	--------

What to do	Why to do it
PM: less than or equal to 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. 7011.0710, subp. 1(A), Minn. R. 7011.0730; Minn. R. 7001.0735
Opacity: less than or equal to 20% opacity except for one-six-minute period per hour of not more than 60% opacity.	Minn. R. 7011.0710, subp. 1(B)

Booths placed in operation after July 9, 1969. (NEW PROCESS EQUIPMENT)

Subject Item:	SV 500	Booths
---------------	--------	--------

What to do	Why to do it
PM: less than or equal to 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
Opacity: less than or equal to 20% opacity.	Minn. R. 7011.0715, subp. 1(B)

GROUP (FUEL USAGE LIMIT FOR NO_x and CO)

Subject Item:	EU	
	100	Boilers
	200	Ovens
	300	Furnaces
	400	Internal Combustion Engines

What to do	Why to do it
Fuel usage: Limit the fuel usage for the combination of natural gas, distillate oil, biodiesel, liquefied petroleum and gasoline such that NO _x and CO emissions are less than a 12-month rolling sum of 90 tons. Refer to Appendix A for the limiting equation 1.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Recordkeeping: The calculations shall be done by the 15th day of each month . Maintain all records of fuel usage calculations, including the 12-month rolling sum on a monthly basis. (You need to calculate your 12-month rolling sum fuel usage limit every month by calculating one month total and adding it to the sum of each month's total from the previous 11 consecutive months. If you do not have an actual operating history, use Table A in the Appendix A to calculate your NO_x and CO emissions.)	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000

FOR BOILERS SUBJECT TO NSPS SUBPART Dc USING NATURAL GAS ONLY

Subject Item:	EU 100	Boilers (Constructed, modified or reconstructed after June 9, 1989, with a maximum design heat input capacity greater than 10 MMBtu/hr or less than 100 MMBtu/hr.)
---------------	--------	---

What to do	Why to do it
Recordkeeping: By the last day of each calendar month, the Permittee shall record the amount of natural gas combusted in the boilers during the previous calendar month. These records shall consist of purchase records, receipts, or fuel meter readings.	40 CFR Section 60.48c(g); Minn. R. 7011.0570

FOR BOILERS SUBJECT TO NSPS SUBPART Dc USING DISTILLATE OIL PRE-2005

Subject Item:	EU 100	Boilers (Constructed, modified or reconstructed after June 9, 1989, but prior to February 28, 2005, with a maximum design heat input capacity greater than 10 MMBtu/hr or less than 100 MMBtu/hr.)
---------------	--------	---

What to do	Why to do it
SO ₂ : By definition, distillate oil contains a maximum of 0.5% (by weight) sulfur.	40 CFR Section 60.42c(d), Minn. R. 7011.0570, and ASTM definition
The SO ₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under 40 CFR Section 60.42c apply at all times, including periods of startup, shutdown, and malfunction.	40 CFR Section 60.42c(i); Minn. R. 7011.0570
Notification of the Date Construction (or reconstruction) Began: due 30 days after start of construction (or reconstruction). Submit the name and number of each unit and the date construction of each unit began. The Notification shall include the following: (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility, (2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under 40 CFR Sections 60.42c, or 60.43c; and (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.	40 CFR Section 60.48c(a); 40 CFR Section 60.7(a)(1); Minn. R. 7019.0100, subp. 1 Minn. R. 7011.0570
Notification of the Actual Date of Initial Startup: due 15 days after Initial Startup	40 CFR Section 60.48 c(a); 40 CFR Section 60.7(a)(3); Minn. R. 7019.0100, subp. 1 Minn. R. 7011.0570
Fuel Supplier Certification: The Permittee shall demonstrate compliance with the SO ₂ standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in 40CFR Section 60.48c(f), as applicable.	40 CFR Section 60.42c(h) and Minn. R. 7011.0570
Fuel Supplier Certification Requirements: The certification shall include the following information for distillate fuel oil: 1. The name of the oil supplier; 2. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR Section 60.41c; and 3. The sulfur content of the oil. This certification shall be obtained for each delivery of distillate fuel oil.	40 CFR Section 60.48c(f)(1); Minn. R. 7011.0570

What to do	Why to do it
<p>Recordkeeping:</p> <p>(1) The Permittee shall record and maintain records of the amount of each fuel combusted at EU XXX during each operating day; OR</p> <p>(2) The Permittee may elect to record and maintain records of the amount of each fuel combusted at EU XXX during each calendar month. If this option is chosen, by the last day of each calendar month, the Permittee shall record the amount of each fuel combusted in EU XXX during the previous calendar month.</p> <p>These records shall consist of purchase records, receipts, or fuel meter readings.</p>	<p>40 CFR Section 60.48c(g); Minn. R. 7011.0570</p>
<p>Records: All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.</p>	<p>40 CFR Sections 60.48c(i); Minn. R. 7011.0570</p>
<p>Semiannual Compliance Report: Due 30 days after end of each calendar half year. The report shall include the information specified in Table A of this permit (see EU XXX). This report may be submitted with the Semiannual Deviations Report also listed in Table B of this permit.</p>	<p>40 CFR Sections 60.48c(d) and 60.48c(j); Minn. R. 7011.0570</p>
<p>Semiannual Compliance Report Contents: The semiannual compliance report must contain the following:</p> <ol style="list-style-type: none"> 1) Calendar dates covered in the reporting period; 2) Records of fuel supplier certification including the name of the fuel oil supplier, a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR Section 60.41c, and the sulfur content or maximum sulfur content of the oil; and 3) A certified statement signed by the Permittee that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. 	<p>40 CFR Sections 60.48c(d) and 60.48c(e); Minn. R. 7011.0570</p>
<p>Performance Test Notifications and Submittals:</p> <p>Performance Test Notification (written): due 30 days before each Performance Test</p> <p>Performance Test Plan: due 30 days before each Performance Test</p> <p>Performance Test Pre-Test Meeting: due 7days before each Performance Test</p> <p>Performance Test Report: due 45 days after Performance Test</p> <p>Performance Test Report-Microfiche Copy or CD: due 105days after each Performance Test</p> <p>The notification, test plan, and test report may be submitted in alternate format as allowed by Minn. R. 7017.2018</p>	<p>Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018; Minn. R. 7017.2035, subps. 1-2</p>

FOR BOILERS SUBJECT TO NSPS SUBPART Dc USING DISTILLATE OIL

Subject Item:	EU 100	Boilers (Constructed, modified or reconstructed after February 28, 2005, with a maximum design heat input capacity greater than 30 MMBtu/hr or less than 100 MMBtu/hr.)
---------------	--------	--

What to do	Why to do it
SO ₂ : By definition, distillate oil contains a maximum of 0.5% (by weight) sulfur.	40 CFR Section 60.42c(d), Minn. R. 7011.0570, and ASTM definition
The SO ₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under 40 CFR Section 60.42c apply at all times, including periods of startup, shutdown, and malfunction.	40 CFR Section 60.42c(i); Minn. R. 7011.0570
Opacity: less than or equal to 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. This limit becomes effective on and after the date on which the initial performance test is completed or required to be completed under 40 CFR Section 60.8, whichever date comes first. The opacity standard applies at all times, except during periods of startup, shutdown, or malfunction.	40 CFR Section 60.43c(c) and (d); Minn. R. 7011.0570
Notification of the Date Construction (or reconstruction) Began: due 30 days after start of construction (or reconstruction). Submit the name and number of each unit and the date construction of each unit began. The Notification shall include the following: (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility, (2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under 40 CFR Sections 60.42c, or 60.43c; and (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.	40 CFR Section 60.48c(a); 40 CFR Section 60.7(a)(1); Minn. R. 7019.0100, subp. 1 Minn. R. 7011.0570
Notification of the Actual Date of Initial Startup: due 15 days after Initial Startup	40 CFR Section 60.48 c(a); 40 CFR Section 60.7(a)(3); Minn. R. 7019.0100, subp. 1 Minn. R. 7011.0570
Fuel Supplier Certification: The Permittee shall demonstrate compliance with the SO ₂ standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in 40CFR Section 60.48c(f), as applicable.	40 CFR Section 60.42c(h) and Minn. R. 7011.0570

What to do	Why to do it
<p>Fuel Supplier Certification Requirements: The certification shall include the following information for distillate fuel oil:</p> <ol style="list-style-type: none"> 1. The name of the oil supplier; 2. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR Section 60.41c; and 3. The sulfur content of the oil. <p>This certification shall be obtained for each delivery of distillate fuel oil.</p>	<p>40 CFR Section 60.48c(f)(1); Minn. R. 7011.0570</p>
<p>Recordkeeping:</p> <p>(1) The Permittee shall record and maintain records of the amount of each fuel combusted at EU XXX during each operating day; OR</p> <p>(2) The Permittee may elect to record and maintain records of the amount of each fuel combusted at EU XXX during each calendar month. If this option is chosen, by the last day of each calendar month, the Permittee shall record the amount of each fuel combusted in EU XXX during the previous calendar month.</p> <p>These records shall consist of purchase records, receipts, or fuel meter readings.</p>	<p>40 CFR Section 60.48c(g); Minn. R. 7011.0570</p>
<p>Records: All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.</p>	<p>40 CFR Sections 60.48c(i); Minn. R. 7011.0570</p>
<p>Semiannual Compliance Report: Due 30 days after end of each calendar half year. The report shall include the information specified in Table A of this permit (see EU XXX). This report may be submitted with the Semiannual Deviations Report also listed in Table B of this permit.</p>	<p>40 CFR Sections 60.48c(d) and 60.48c(j); Minn. R. 7011.0570</p>
<p>Semiannual Compliance Report Contents: The semiannual compliance report must contain the following:</p> <ol style="list-style-type: none"> 1) Calendar dates covered in the reporting period; 2) Records of fuel supplier certification including the name of the fuel oil supplier, a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR Section 60.41c, and the sulfur content or maximum sulfur content of the oil; and 3) A certified statement signed by the Permittee that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. 	<p>40 CFR Sections 60.48c(d) and 60.48c(e); Minn. R. 7011.0570</p>
<p>Performance Test Notifications and Submittals:</p> <p>Performance Test Notification (written): due 30 days before each Performance Test</p> <p>Performance Test Plan: due 30 days before each Performance Test</p> <p>Performance Test Pre-Test Meeting: due 7days before each Performance Test</p> <p>Performance Test Report: due 45 days after Performance Test</p> <p>Performance Test Report-Microfiche Copy or CD: due 105days after each Performance Test</p> <p>The notification, test plan, and test report may be submitted in alternate format as allowed by Minn. R. 7017.2018</p>	<p>Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018; Minn. R. 7017.2035, subps. 1-2</p>

What to do	Why to do it
<p>Opacity Testing: In addition to the initial opacity testing required by 40 CFR Section 60.47c(a), the Permittee shall conduct subsequent performance tests using one of the following options.</p> <p>1) Using Method 9 of Appendix A-4 of 40 CFR pt. 60, using the procedures in 40 CFR Section 60.47c(a) according to the applicable schedule in 40 CFR Section 60.47c(a)(1)(i) through (a)(1)(iv), as determined by the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test results. OR</p> <p>2). If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test, the Permittee may, as an alternative to option 1 above, elect to perform subsequent monitoring using Method 22 of Appendix A-7 of 40 CFR pt. 60 according to the procedures specified in 40 CFR Section 60.47c(a)(2)(i) and (ii); OR</p> <p>3). If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of Appendix A-4 of 40 CFR pt. 60 performance test, the Permittee may, as an alternative to option 1 above, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in 40 CFR Section 60.47c(a)(2). For reference purposes in preparing the monitoring plan, see 40 CFR Section 60.47c(a)(3).</p>	<p>40 CFR Section 60.47c(a)(1) through (3); Minn. R. 7011.0570</p>

GROUP (PM/PM_{2.5}/PM₁₀ EMISSION LIMIT)

Subject Item:	EU500	Painting, Coating, Sanding, Molding, Casting, Lamination and Mixing Booths
---------------	-------	--

What to do	Why to do it
PM/PM _{2.5} /PM ₁₀ : PM/PM _{2.5} /PM ₁₀ emissions not to exceed a 12-month rolling sum of 90 tons. Refer to Appendix A for the limiting equation 2.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Recordkeeping: The calculations shall be done by the 15th day of each month. Maintain all records of PM/PM _{2.5} /PM ₁₀ emissions calculations including the 12-month rolling sum on a monthly basis. (If you do not have an actual operating history, use Table B in Appendix A to calculate your PM/PM_{2.5}/PM₁₀ emissions).	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000

GROUP (VOC EMISSION LIMIT)

Subject Item:	EU500 EU600	Painting, Coating, Molding, Casting, Lamination and Mixing Booths Dip Tanks
	FS 200	Cleaning Solvents and Adhesives
	TK 100	Distillate oil, LPG and Gasoline Tanks that do not qualify as insignificant activities.

What to do	Why to do it
VOC Emissions: VOC Emissions not to exceed on a 12-month rolling sum of 240 tons. Refer to Appendix A for the limiting equations 3 and 4, where applicable.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000.
Material Content: VOC contents in all materials shall be determined by the Material Safety Data Sheet (MSDS) or Certification of Analysis (COA) provided by the supplier of each material used. If a material content range is given on the MSDS or COA, the highest number in the range shall be used in all permit calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material according to EPA and or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the date obtained shall supersede the MSDS or COA data.	Minn. R. 7007.0800, subps. 4 and 5
By the 15th day of each month calculate and record the following: <ol style="list-style-type: none"> 1. Total purchases of all VOC containing materials used during the previous month. This record shall include the VOC content of each material as determined by the material by the Material Content requirement of this permit; 2. The total VOC emissions for the previous month using the formulas specified in the permit; (Refer to Appendix A for the limiting equation 3 or 4, where applicable) and 3. Total 12-month rolling sum VOC emissions for the previous 12-month period by summing the monthly VOC emissions data for the previous 12 month. (If you do not have an actual operating history, see Table C in the Appendix A to calculate your VOC emissions.) 	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000.

GROUP (HAP EMISSION LIMIT)

Subject Item:	EU500	Molding, Casting, Lamination and Mixing Booths
---------------	-------	--

What to do	Why to do it
HAP Emissions: HAP not to exceed on a 12-month rolling average of 100 tons.	To qualify for this general permit under Minn. R. 7007.1100; Minn. R. 7007.0800, subp. 2; 40 CFR Section 63.5805
By the 15 th day of each month, the Permittee shall calculate and record the following to determine the organic HAP emissions limit. Multiply the individual organic HAP emissions limits in Table 3 or 5 of NESHAP Subpart WWW (reproduced later in this permit) for each open molding (centrifugal casting) operation type by the amount of neat resin plus or neat gel coat plus used in the last 12 months for each open molding (centrifugal casting) operation type, sum by the total amount of neat resin plus and neat gel coat plus used in open molding (centrifugal casting) over the last 12 months.	40 CFR Section 63.5810; Minn. R. 7011.7800

The following Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR pt. 60, subp. IIII) for Engines with less than 30 liters per cylinder that were constructed, modified, or reconstructed after July 11, 2005.

The date that construction commences is the date the engine is ordered by the owner or operator. Applies to owners and operators that commence construction after July 11, 2005, of the following engines:

- 1) *engines manufactured after April 1, 2006, and are not fire pump engines*
- 2) *engines manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.*
- 3) Engines modified or reconstructed after July 11, 2005, must meet the emission standards for the model year in which the engine was originally new, not the year that the engine was modified or reconstructed.
- 4) Emergency Stationary Internal Combustion Engine (ICE) is defined as an engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

HP- Horsepower; g/HP-hr- grams per horsepower-hour

Subject Item:	EU 400	Owners and Operators of Non-Emergency Engines (Pre-2007) and < 10 liters/cylinder
---------------	--------	---

What to do	Why to do it
A. EMISSION STANDARDS	hdr
MAXIMUM ENGINE POWER LESS THAN 11 HP	hdr
<i>NMHC + NO_x</i> : less than 7.8 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
<i>CO</i> : less than 6.0 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
<i>PM</i> : less than 0.75 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 11 HP BUT LESS THAN 25HP	hdr
<i>NMHC + NO_x</i> : less than 7.1 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
<i>CO</i> : less than 4.9 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
<i>PM</i> : less than 0.60 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 25 HP BUT LESS than 50 HP	hdr
<i>NMHC + NO_x</i> : less than 7.1 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
<i>CO</i> : less than 4.1 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520

What to do	Why to do it
<i>PM</i> : less than 0.60 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 50 HP BUT LESS than 175 HP	hdr
<i>NOx</i> : less than 6.9 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 175 HP BUT LESS THAN OR EQUAL TO 750 HP	hdr
<i>HC</i> : less than 1.0 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
<i>NOx</i> : less than 6.9 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
<i>CO</i> : less than 8.5 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520
<i>PM</i> : less than 0.40 g/HP-hr	40 CFR Section 60.4204 (a); Minn. R. 7011.3520

Subject Item:	EU 400	Owners and Operators of Non-Emergency Engines (Pre-2007) and ≤ 10 liters/cylinder and < 30 liters/cylinder
---------------	--------	--

What to do	Why to do it
A. EMISSION STANDARDS	hdr
<i>NOx</i> : less than 12.7 g/HP-hr (17.0 g/KW-hr) when maximum test speed is less than 130 revolutions per minute (rpm)	40 CFR Section 60.4204; 40 CFR Section 94.8(a)(1); Minn. R. 7011.3520
<i>NOx</i> : less than 33.6 g/HP-hr ($45.0 \times N^{-0.20}$) when maximum test speed is at least 130 rpm but less than 2000 rpm, where N is the maximum test speed of the engine in rpm	40 CFR Section 60.4204; 40 CFR Section 94.8(a)(1); Minn. R. 7011.3520
<i>NOx</i> : less than 7.3 g/HP-hr (9.8 g/kW-hr) when maximum test speed is 2000 rpm or more.	40 CFR Section 60.4204; 40 CFR Section 94.8(a)(1); Minn. R. 7011.3520

Subject Item:	EU 400	Owners and Operators of Non-Emergency Engines (2007 and later) and < 30 liters/cylinder
---------------	--------	---

What to do	Why to do it
A. EMISSION STANDARDS	hdr
<i>NOx</i> : less than 12.7 g/HP-hr (17.0 g/KW-hr) when maximum test speed is less than 130 revolutions per minute (rpm)	40 CFR Section 60.4204; 40 CFR Section 94.8(a)(1); Minn. R. 7011.3520
<i>NOx</i> : less than 33.6 g/HP-hr ($45.0 \times N^{-0.20}$) when maximum test speed is at least 130 rpm but less than 2000 rpm, where N is the maximum test speed of the engine in rpm	40 CFR Section 60.4204; 40 CFR Section 94.8(a)(1); Minn. R. 7011.3520
<i>NOx</i> : less than 7.3 g/HP-hr (9.8 g/kW-hr) when maximum test speed is 2000 rpm or more.	40 CFR Section 60.4204; 40 CFR Section 94.8(a)(1); Minn. R. 7011.3520
B. FUEL REQUIREMENTS FOR OWNERS AND OPERATORS OF NON-EMERGENCY ENGINES	hdr
<i>Fuel Restriction</i> : On October 1, 2007, the owners and operations that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR Section 80.510(a)	40 CFR Section 60.4207; 40 CFR Section 80.510(a); Minn. R. 7011.3520
<i>Fuel Restriction</i> : On October 1, 2010, the owners and operations of stationary CI internal combustion engines with a displacement of less than 30 liters per cylinder that use diesel fuel must use the requirements of 40 CFR Section 80.510(b) for nonroad diesel fuel	40 CFR Section 60.4207; 40 CFR Section 80.510(b); Minn. R. 7011.3520
<i>Fuel Used Up</i> : Owners and operations of pre-2011 model year stationary CI internal combustion engines may petition the EPA Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of 40 CFR Section 60.4207 (a) and (b) beyond the dates required for purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the EPA Administrator.	40 CFR Section 60.4207; Minn. R. 7011.3520
C. COMPLIANCE REQUIREMENTS FOR OWNERS AND OPERATORS OF NON-EMERGENCY ENGINES	hdr
The owner or operator must comply with the emission standards specified in 40 CFR Section 60.4204, and must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. The owner and operator must also meet the requirements of 40 CFR pts. 89, 94 and/or 1068, as they apply to you.	40 CFR Section 60.4211; Minn. R. 7011.3520

What to do	Why to do it
<p>For pre-2007 model year engines with a displacement < 30 liters per cylinder that are not fire pump engines, you must demonstrate compliance according to <u>one</u> of the methods specified below:</p> <ol style="list-style-type: none"> (1) Purchasing an engine certified according to 40 CFR pt. 89 or 40 CFR pt. 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications; (2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly; (3) Keeping records of engine manufacturer data indicating compliance with the standards; (4) Keeping records of control device vendor data indicating compliance with the standards; or (5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR Section 60.4212, as applicable. 	<p>40 CFR Section 60.4211(b)(1) through (5); Minn. R. 7011.3520</p>
<p>The owner or operator of a 2007 model year and later with a displacement < 30 liters per cylinder stationary CI internal combustion engine and must comply with the emission standards specified in 40 CFR Section 60.4204(b) or 40 CFR Section 60.4205(b). The engine must be installed and configured according to the manufacturer's specifications.</p>	<p>40 CFR Section 60.4211(c) Minn. R. 7011.3520</p>
<p>D. MONITORING FOR OWNERS AND OPERATORS FOR NON-EMERGENCY ENGINES</p>	<p>hdr</p>
<p>The owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in 40 CFR Section 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.</p>	<p>40 CFR Section 60.4209(b); Minn. R. 7011.3520</p>

What to do	Why to do it
E. NOTIFICATIONS AND REPORTING FOR OWNERS AND OPERATORS FOR NON-EMERGENCY ENGINES	hdr
<p>Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the following requirements:</p> <p>Submit an initial notification as required in 40 Section 60.7(a)(1). The notification must include the following information :</p> <ol style="list-style-type: none"> 1) Name and address of the owner or operator; 2) The address of the affected source; 3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement; 4) Emission control equipment; and 5) Fuel used. 	<p>40 CFR Section 60.4214(a)(1); Minn. R. 7011.3520</p>
F. RECORDKEEPING FOR OWNERS AND OPERATORS FOR NON-EMERGENCY ENGINES	hdr
<p>Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the following requirements:</p> <p>Keep records of the following information:</p> <ol style="list-style-type: none"> 1) All notifications submitted and all documentation supporting any notification; 2) Maintenance conducted on the engine; 3) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards; and 4) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards. 	<p>40 CFR Section 60.4214(a)(2); Minn. R. 7011.3520</p>
<p><i>Records of Any Corrective Actions:</i> If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.</p>	<p>40 CFR Section 60.4214(c); Minn. R. 7011.3520</p>

Subject Item:	EU 400	Owners and Operators of Emergency Engines Except Fire Pump Engines (Pre-2007) and < 10 liters/cylinder
---------------	--------	---

What to do	Why to do it
A. EMISSION STANDARDS	hdr
MAXIMUM ENGINE POWER LESS THAN 11 HP	hdr
<i>NMHC</i> + <i>NOx</i> : less than 7.8 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
<i>CO</i> : less than 6.0 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
<i>PM</i> : less than 0.75 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 11 HP BUT LESS THAN 25HP	hdr
<i>NMHC</i> + <i>NOx</i> : less than 7.1 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
<i>CO</i> : less than 4.9 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
<i>PM</i> : less than 0.60 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 25 HP BUT LESS than 50 HP	hdr
<i>NMHC</i> + <i>NOx</i> : less than 7.1 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
<i>CO</i> : less than 4.1 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
<i>PM</i> : less than 0.60 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 50 HP BUT LESS than 175 HP	hdr
<i>NOx</i> : less than 6.9 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 175 HP BUT LESS THAN OR EQUAL TO 750 HP	hdr
<i>HC</i> : less than 1.0 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
<i>NOx</i> : less than 6.9 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
<i>CO</i> : less than 8.5 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520
<i>PM</i> : less than 0.40 g/HP-hr	40 CFR Section 60.4205 (a); Minn. R. 7011.3520

Subject Item:	EU 400	Owners and Operators of Emergency Engines Except Fire Pump Engines (Pre-2007) and ≤ 10 liters/cylinder and < 30 liters/cylinder
---------------	--------	---

What to do	Why to do it
<i>NOx</i> : less than 12.7 g/HP-hr (17.0 g/KW-hr) when maximum test speed is less than 130 revolutions per minute (rpm)	40 CFR Section 60.4205(a); 40 CFR Section 94.8(a)(1); Minn. R. 7011.3520
<i>NOx</i> : less than 33.6 g/HP-hr ($45.0 \times N^{-0.20}$) when maximum test speed is at least 130 rpm but less than 2000 rpm, where N is the maximum test speed of the engine in rpm	40 CFR Section 60.4205(a); 40 CFR Section 94.8(a)(1); Minn. R. 7011.3520
<i>NOx</i> : less than 7.3 g/HP-hr (9.8 g/kW-hr) when maximum test speed is 2000 rpm or more.	40 CFR Section 60.4205(a); 40 CFR Section 94.8(a)(1); Minn. R. 7011.3520

Subject Item:	EU 400	Owners and Operators of Emergency Engines Except Fire Pump (2007 and later) and < 30 liters/cylinder
---------------	--------	--

What to do	Why to do it
A. EMISSION STANDARDS	hdr
MAXIMUM ENGINE POWER LESS THAN 50 HP (Model Year 2007). Shall comply with the certification emission standards for new nonroad CI engines.	hdr
<i>NMHC+NOx</i> : less than 3.5 g/HP-hr (4.7 g/kW-hr)	40 CFR Section 60.4205(b); 40 CFR Section 60.4202; 40 CFR Section 89.112; Minn. R. 7011.3520
<i>CO</i> : less than 3.7 g/HP-hr (5.0 g/kW-hr)	40 CFR Section 60.4205(b); 40 CFR Section 60.4202; 40 CFR Section 89.112; Minn. R. 7011.3520
Opacity: shall not exceed the following: (1) 20 percent during the acceleration mode; (2) 15 percent during the lugging mode; and (3) 50 percent during the peaks in either the acceleration or lugging modes.	40 CFR Section 60.4205(b); 40 CFR Section 60.4202; 40 CFR Section 89.113; Minn. R. 7011.3520
MAXIMUM ENGINE POWER LESS THAN 11 HP (Model Year 2008+)	hdr
<i>NMHC + NOx</i> : less than 5.6 g/HP-hr	40 CFR Section 60.4205 (b); 40 CFR Section 1039.104, 105, 107, 115 and 40 CFR Section 60.4202, Table 2 ; Minn. R. 7011.3520
<i>CO</i> : less than 6.0 g/HP-hr	40 CFR Section 60.4205 (b); 40 CFR Section 1039.104, 105, 107, 115 and 40 CFR Section 60.4202, Table 2; Minn. R. 7011.3520
<i>PM</i> : less than 0.30 g/HP-hr	40 CFR Section 60.4205 (b); 40 CFR Section 1039.104, 105, 107, 115 and 40 CFR Section 60.4202, Table 2; Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 11 HP BUT LESS THAN 25 HP (Model Year 2008+)	hdr
<i>NMHC + NOx</i> : less than 5.6 g/HP-hr	40 CFR Section 60.4205 (b); 40 CFR Section 1039.104, 105, 107, 115 and 40 CFR Section 60.4202, Table 2; Minn. R. 7011.3520

What to do	Why to do it
<i>CO</i> : less than 4.9 g/HP-hr	40 CFR Section 60.4205 (b); 40 CFR Section 1039.104, 105, 107, 115 and 40 CFR Section 60.4202, Table 2; Minn. R. 7011.3520
<i>PM</i> : less than 0.30 g/HP-hr	40 CFR Section 60.4205 (b); 40 CFR Section 1039.104, 105, 107, 115 and 40 CFR Section 60.4202, Table 2; Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 25 HP BUT LESS THAN 50 HP (Model Year 2008+)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 5.6 g/HP-hr	40 CFR Section 60.4205 (b); 40 CFR Section 1039.104, 105, 107, 115 and 40 CFR Section 60.4202, Table 2; Minn. R. 7011.3520
<i>CO</i> : less than 4.1 g/HP-hr	40 CFR Section 60.4205 (b); 40 CFR Section 1039.104, 105, 107, 115 and 40 CFR Section 60.4202, Table 2; Minn. R. 7011.3520
<i>PM</i> : less than 0.22 g/HP-hr	40 CFR Section 60.4205 (b); 40 CFR Section 1039.104, 105, 107, 115 and 40 CFR Section 60.4202, Table 2; Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL 50 HP (Model Year 2007). Shall comply with the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR Section 89.112 and 40 CFR Section 89.113 for all pollutants beginning in model year 2007	hdr

Subject Item:	EU 400	Owners and Operators of Fire Pump Engines (All years 2007) and < 30 liters/cylinder
---------------	--------	--

What to do	Why to do it
A. EMISSION STANDARDS	hdr
MAXIMUM ENGINE POWER LESS THAN 11 HP (Model Year 2010 and earlier)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 7.8 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>CO</i> : less than 6.0 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.75 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER LESS THAN 11 HP (Model Year 2011+)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 5.6 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.30 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 11 HP BUT LESS THAN 25HP (Model Year 2010 and earlier)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 7.1 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>CO</i> : less than 4.9 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.60 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 11 HP BUT LESS THAN 25HP (Model Year 2011+)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 5.6 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.30 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 25 HP BUT LESS than 50 HP (Model Year 2010 and earlier)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 7.1 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>CO</i> : less than 4.1 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.60 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 25 HP BUT LESS than 50 HP (Model Year 2011+)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 5.6 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.22 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520

What to do	Why to do it
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 50 HP BUT LESS than 75 HP (Model Year 2010 and earlier)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 7.8 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>CO</i> : less than 3.7 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.60 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 50 HP BUT LESS than 75 HP (Model Year 2011+) ¹	hdr
<i>NMHC</i> + <i>NOx</i> : less than 3.5g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.30 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 75 HP BUT LESS than 100 HP (Model Year 2010 and earlier)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 7.8 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>CO</i> : less than 3.7 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.60 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 75 HP BUT LESS than 100 HP (Model Year 2011+) ¹	hdr
<i>NMHC</i> + <i>NOx</i> : less than 3.5 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.30 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 100 HP BUT LESS than 175 HP (Model Year 2009 and earlier)	hdr
<i>NMHC</i> + <i>NOx</i> : less than 7.8 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>CO</i> : less than 3.7 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.60 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 100 HP BUT LESS than 175 HP (Model Year 2010+) ²	hdr
<i>NMHC</i> + <i>NOx</i> : less than 3.5 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.22 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520

¹ For model years 2011-2013, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,560 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines

² For model years 2010-2012, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,560 rpm may comply with the emission limitations for 2009 model year engines

What to do	Why to do it
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 175 HP BUT LESS than 300 HP (Model Year 2008 and earlier)	hdr
<i>NMHC + NOx</i> : less than 7.8 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>CO</i> : less than 2.6 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.40 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 175 HP BUT LESS than 300 HP (Model Year 2009+)	hdr
<i>NMHC + NOx</i> : less than 3.0 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.15 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 300 HP BUT LESS than 600 HP (Model Year 2008 and earlier)	hdr
<i>NMHC + NOx</i> : less than 7.8 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>CO</i> : less than 2.6 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.40 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 300 HP BUT LESS than 600 HP (Model Year 2009+)	hdr
<i>NMHC + NOx</i> : less than 3.0 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.15 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 600 HP BUT LESS OR EQUAL TO 750 HP (Model Year 2008 and earlier)	hdr
<i>NMHC + NOx</i> : less than 7.8 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>CO</i> : less than 2.6 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.40 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
MAXIMUM ENGINE POWER GREATER THAN OR EQUAL TO 600 HP BUT LESS OR EQUAL TO 750 HP (Model Year 2009+)	hdr
<i>NMHC + NOx</i> : less than 3.0 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
<i>PM</i> : less than 0.15 g/HP-hr	40 CFR Section 60.4205 (c); Minn. R. 7011.3520
B. MONITORING, REPORTING AND RECORDKEEPING FOR OWNERS AND OPERATORS OF EMERGENCY ENGINES	hdr

What to do	Why to do it
<p>The owner or operator is not required to submit an initial notification.</p> <p>Starting with the model year 2013 for engine power less than 75 HP; model year 2012 for engine power less than 175 HP; and model year 2011 for engine power greater than and equal to 175 HP.</p> <p>If the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter.</p> <p>The owner must record the time of operation of the engine and the reason the engine was in operation during that time.</p>	<p>40 CFR Section 60.4214 (b); Minn. R. 7011.3520</p>
<p>Starting with the model year 2013 for engine power less than 75 HP; model year 2012 for engine power less than 175 HP; and model year 2011 for engine power greater than and equal to 175 HP, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in 40 CFR Section 60.4202 but does not meet all the emission standards for non-emergency engines in 40 CFR Section 60.4201. The label must be added according to the labeling requirements specified in 40 CFR Section 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.</p>	<p>40 CFR Section 60.4210 (f); Minn. R. 7011.3520</p>

The following Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (40 CFR pt. 60, subp. JJJJ) for Engines with less than or equal to 500 brake horsepower. These engines can use gasoline fuel only.

The engines that are constructed, modified or reconstructed after June 12, 2006, are subject to these rules. The date that construction commences is the date the engine is ordered by the owner or operator.

1. Non-emergency engines with a maximum engine power less than 500 HP, manufactured on or after July 1, 2008;
2. Emergency engines with a maximum engine power greater than 25HP, manufactured on or after January 1, 2009;
3. Engines that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other requirements.

Owners and Operators of Non-Emergency Engines (Manufactured after July 1, 2008)
--

What to do	Why to do it
Owners and operators use gasoline must use gasoline that meets the per gallon sulfur limit in 40 CFR Section 80.195.	40 CFR Section 60.4235;
After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in 40 CFR Section 60.4233.	40 CFR Section 60.4236(c)
The owner or operator must operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, and must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required.	40 CFR Section 60.4243(a)
<p>Owners and operators of all stationary SI ICE must keep records of the information in (1) through (4).</p> <p>(1) All notifications and all documentation supporting any notification as described in 40 CFR Sections 60.7 and 60.19.</p> <p>(2) Maintenance conducted on the engine.</p> <p>(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90 and 1048.</p> <p>(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR Section 60.4243(a)(2), documentation that the engine meets the emission standards.</p>	40 CFR Section 60.4245 (a); 40 CFR Section 60.7 and 60.19.
For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter.	40 CFR Section 60.4243(d)

Owners and Operators of Emergency Engines (Manufactured after July 1, 2008)

What to do	Why to do it
The owner or operator of an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter upon startup of your emergency engine.	40 CFR Section 60.4237
Emergency stationary ICE may be operated 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, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving 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. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.	40 CFR Section 60.4243(d)
Emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in <i>40 CFR Section 60.4233 after January 1, 2011</i> .	40 CFR Section 60.4236(a)
For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must 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.	40 CFR Section 60.4245(b)

The following are the requirements of National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (40 CFR pt. 63, subp. MMMM)

New Source: constructed or reconstructed after August 13, 2002

Existing Source: constructed or reconstructed on or before August 13, 2002

Definition of An Affected Source: The collection of all coating operation; storage containers and mixing vessels used for coating, thinners and/or other additives, cleaning materials and wastes; and manual and automated conveying equipment and containers used for coatings, thinners and /or additives, cleaning materials and wastes.

Misc. metal parts and products includes, but is limited to: Metal components of the following types of product: motor vehicle parts and accessories, bicycles and sporting goods, recreational vehicles, extruded aluminum structural components, railroad cars, heavy duty trucks, medical equipment, lawn and garden equipment, electronic equipment, magnet wire, steel drums, industrial machinery, metal pipes, and numerous other industrial, household, and consumer products

You are subject to the requirements below if you own or operate a new, reconstructed or existing affected source at a facility that is a major source, is located at a major source, or is part of a major source of HAP and uses 250 gallons per year or more of coatings that contain HAP in the surface coating of miscellaneous metal parts and products.

Subject Item:	EU 500 800	Painting/Coating Booths Dip Tanks
---------------	------------------	--------------------------------------

What to do	Why to do it
<i>New Source: Must be in compliance with all applicable requirements listed by January 2, 2004, or the initial startup of the source, whichever is later.</i>	40 CFR Section 63.3833; Minn. R. 7011.8090
<i>Organic HAP:</i> less than 1.9 lbs HAP/gal of coating solids for each new general use coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090
<i>Organic HAP:</i> less than 27.5 lbs HAP/gal of coating solids for each new high performance coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090
<i>Organic HAP:</i> less than 0.44 lbs HAP/gal of coating solids for each new magnet wire coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090
<i>Organic HAP:</i> less than 6.8 lbs HAP/gal of coating solids for each new rubber-to-metal coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090
<i>Organic HAP:</i> less than 12.4 lbs HAP/gal of coating solids for each new extreme performance fluoropolymer coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090
<i>Existing Source: Must be in compliance with all applicable requirements listed by January 2, 2007.</i>	40 CFR Section 63.3833; Minn. R. 7011.8090
<i>Organic HAP:</i> less than 2.6 lbs HAP/gal of coating solids for each new general use coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090
<i>Organic HAP:</i> less than 27.5 lbs HAP/gal of coating solids for each new high performance coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090
<i>Organic HAP:</i> less than 1.0 lbs HAP/gal of coating solids for each new magnet wire coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090
<i>Organic HAP:</i> less than 37.7 lbs HAP/gal of coating solids for each new rubber-to-metal coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090

What to do	Why to do it
<i>Organic HAP</i> : less than 12.4 lbs HAP/gal of coating solids for each new extreme performance fluoropolymer coating using a 12-month compliance period.	40 CFR Section 63.3890; Minn. R. 7011.8090
OPTIONS FOR MEETING THE EMISSION LIMITS ABOVE, THE PERMITTEE MAY DO ANY OF THE FOLLOWING	hdr
Compliant Material Option: The Permittee must not exceed the organic HAP limit above, calculated as a rolling 12-month emission rate and determined on a monthly basis.	40 CFR Section 63.3891(a); Minn. R. 7011.8090
Emission Rate without Add-on Controls Option: The Permittee must demonstrate that, based on the coatings, thinners, and/or other additives, and cleaning materials used in the coating operations, the organic HAP emission rate is less than the emission limit above, calculated as a rolling 12-month emission rate and determined on a monthly basis.	40 CFR Section 63.3891(b); Minn. R. 7011.8090
Emission Rate with Add-on Controls Option: The Permittee must demonstrate that, based on the coatings, thinners, and/or other additives, and cleaning materials used in the coating operations, (including emission capture and control efficiency), the organic HAP emission rate is less than the emission limit above, calculated as a rolling 12-month emission.	40 CFR Section 63.3891(c); Minn. R. 7011.8090
WORK PRACTICE STANDARDS	hdr
If the Permittee use the compliant material option or the emission rate without add-on controls option, you are not required to meet any work standards.	40 CFR Section 63.3893 (a); Minn. R. 7011.8090
If the Permittee use capture and control devices, the Permittee must develop and operate according to a work practice plan. The plan should include actions to: <ol style="list-style-type: none"> 1) All organic HAP containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be stored in closed containers; 2) Spills of organic HAP containing coatings, thinners and/or additives, cleaning materials and waste materials must be minimized; 3) Organic HAP containing coatings, thinners and/or other additive, cleaning materials, and waste materials must be conveyed from one location to another in closed containers or pipes; 4) Mixing vessels which contain organic HAP containing coatings and other materials must be closed except when adding to, removing, or mixing the contents.; and 5) Emission of organic HAP must be minimized during cleaning of storage, mixing, and conveying equipment. 	40 CFR Section 63.3893 (b)(1-5); Minn. R. 7011.8090
NOTIFICATIONS	hdr
<i>Initial Notification for New Source</i> : The Permittee must submit the notification by May 1, 2004, or initial startup, whichever is later. <i>Use Form 4M-01</i>	40 CFR Section 63.3910(b); Minn. R. 7011.8090
<i>Initial Notification for Existing Source</i> : The Permittee must submit the notification no later than January 2, 2005. <i>Use Form 4M-01</i>	40 CFR Section 63.3910(b); Minn. R. 7011.8090
The Permittee must meet the notification requirements in 40 CFR Section 63.3910 according to the dates specified in that section and in 40 CFR pt. 63, subp. A. Some of the notifications must be submitted before the compliance dates described in paragraphs (a) through (c) of 40 CFR Section 63.3883.	

What to do	Why to do it
<i>Performance Test Notifications and Reports:</i> The Permittee shall submit the required performance test notifications and reports reference earlier in this permit from Minn. R. ch. 7017	Minn. R. ch. 7017
<i>Notifications of Intent to Conduct a Performance Tests (with add-on control equipment):</i> The Permittee is required to conduct performance tests, the Permittee must submit a notification of intent to conduct a performance test 60 days prior to the test.	40 CFR Section 63.3910; 40 CFR Section 63.9(e); Minn. R. 7011.8090
<i>Performance Test:</i> The Permittee shall conduct all performance tests according to 40 CFR Section 63.7 (c), (f), and (h) and 40 CFR Section 63.7520(a) through (g), as applicable and Minn. R. ch. 7017.	40 CFR Section 63.7520; 40 CFR Section 63.7(c), (d), (e), (f) and (h); Minn. R. 7011.8090
<i>Notification of Compliance Status:</i> The Permittee must submit a Notification of Compliance Status (NOCS) no later than 30 calendar days following the end of the initial compliance period (January 31, 2008). The initial compliance period ends on the last day of the 12 th full month following the compliance date. The notification of compliance status must contain the information specified in 40 CFR Section 63.3910 (c)(1) through (c)(11) and in 40 CFR Section 63.9(h), as applicable.	40 CFR Section 63.3910(c); 40 CFR Section 63.9(h); Minn. R. 7011.8090
RECORDKEEPING	hdr
<i>Records:</i> The Permittee is required to keep records in a form suitable and readily available for expeditious review, according to 40 CFR Section 63.10(b)(1). Where appropriate, the records may be maintained as electronic spreadsheets or as a database. The Permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record. In addition, the Permittee must keep record on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report or records according to 40 CFR Section 63.10(b)(1) and keep off-site for the remaining 3 years.	40 CFR Section 63.3931; 40 CFR Section 63.10(b)(1); Minn. R. 7011.8090
<i>Records:</i> The Permittee must collect and keep records of the data and information in 40 CFR Section 63.3930, depending on the compliance option that the Permittee choose. Failure to collect and keep these records is a deviation from 40 CFR pt.63, subp. MMMM.	40 CFR Section 63.3930; Minn. R. 7011.8090
REPORTS	hdr
<i>Performance Test Report:</i> due 45 days after Performance Test for each performance test required by subpart MMMM. This report of performance test results for emission capture systems and add-on control devices after completing the tests as specified in 40 CFR Section 63.10(d)(2).	40 CFR Section 63.3920(b); 40 CFR Section 63.10(d)(2); Minn. R. 7017.2030, subp. 2; Minn. R. 7011.8090

What to do	Why to do it
<p>Startup, Shutdown, and Malfunction Report (SSMR): The Permittee must submit an immediate SSMR if the emission unit had a startup, shutdown, or malfunction during the reporting period that is not consistent with the emission unit's SSMP and the unit exceeded any applicable emission limitation in subpart MMMM. The report must contain the following:</p> <ol style="list-style-type: none"> (1) Actions taken for the event; (2) The name, title and signature of a responsible official who is certifying its accuracy; (3) An explanation of the circumstances of the event; (4) The reasons for not following the SSMP; and (5) Whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred. <p>The Permittee must submit the SSMR report</p> <ol style="list-style-type: none"> (1) By fax, telephone, or other means to the Administrator within 2 working days after starting actions inconsistent with the plan; and (2) By letter to the Administrator within 7 working days after the end of the event unless the Permittee has made alternative arrangements with the Administrator as specified in 40 CFR Section 63.10(d)(5)(ii). 	<p>40 CFR Section 63.3920; 40 CFR Section 63.10(d)(5)(ii); Minn. R. 7011.8090</p>
<p><i>Deviation Report:</i> The Permittee must report all deviations as defined in subpart MMMM or in the Semiannual Deviations Report required elsewhere in this permit, whichever is applicable</p>	<p>40 CFR Section 63.3920(a)(5) through (7); Minn. R. 7011.8090</p>
<p><i>No Deviation Report:</i> If there were no deviations from the emission limitations in 40 CFR pt. 63, subpart MMMM that apply to you, the Semiannual Compliance Report must include a statement that there were no deviations from the emission limitation during the reporting period. If the Permittee used the emission rate with add-on controls option and there were no periods during which the continuous parameter monitoring systems (CPMS) were out-of-control as specified in 40 CFR Section 63.8(c)(7), the Semiannual Compliance Report must include a statement that there were no periods during which the CPMA were out-of-control during the reporting period.</p>	<p>40 CFR Section 63.3920(a)(4); Minn. R. 7011.8090</p>

What to do	Why to do it
<p><i>Semiannual Compliance Reports:</i> due 31 days after end of each calendar half-year following Startup. The first semiannual compliance report must cover the first semiannual reporting period which begins February 1, 2008 and ends June 1, 2008.</p> <p>Each subsequent semiannual compliance report must cover the subsequent semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31, whichever date is the first date following the end of the first calendar half after Initial Startup of the unit.</p> <p>Each semiannual compliance report must 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.</p> <p>This report may be submitted with the Semiannual Deviations Report also listed in Table B of this permit.</p> <p>The Semiannual Compliance Report must contain the following Information required in 40 CFR Section 63.3920(a)(1) through (7); If the unit had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the SSMP, the compliance report must include the information in 40 CFR Section 63.10(d)(50(i)</p>	<p>40 CFR Section 63.3920(a)(1)(i), (ii), and (iv); Minn. R. 7011.8090</p>

The following are the requirements of the National Emission Standards for Surface Coating of Plastic Parts (40 CFR pt. 63, subp. PPPP)

(**New Source:** constructed or reconstructed after December 4, 2002)

(**Existing Source:** constructed on or before December 4, 2002)

You are subject to the requirements below if you own or operate a new, reconstructed or existing affected source at a facility that is a major source, is located at a major source, or is part of a major source of HAP and uses 100 gallons per year or more of coatings that contain HAP to coat plastic parts or products.

Definition of An Affected Source: The collection of all coating operation; storage containers and mixing vessels used for coating, thinners and/or other additives, cleaning materials and wastes; and manual and automated conveying equipment and containers used for coatings, thinners and /or additives, cleaning materials and wastes.

Plastic parts and products includes, but is limited to: Plastic components of the following types of products : motor vehicle parts and accessories for automobiles, trucks, RVs; sporting and recreational goods; toys; business machines; laboratory and medical equipment; other household, and consumer products.

Coatings are materials applied to a substrate for decorative, protective, or functional purposes, and include, but are not limited to paints, sealants, caulks, inks, adhesives, and maskants.

This rule does not cover the following, which are applicable to this permit:

Extrusion of a plastic covering onto plastic parts of products to form a coating; and

In-mold coating operations or gel coating operations in the manufacture of reinforced plastic composite parts that meet the requirements of subpart WWW

Subject Item:	EU 500	Spraying/Coating Operations, Mixing and Cleaning
---------------	--------	--

What to do	Why to do it
A. GENERAL COMPLIANCE REQUIREMENTS	hdr
<i>New Source: Must be in compliance with all applicable requirements by April 19, 2004, or the initial startup of the source, whichever is later.</i>	40 CFR Section 63.4483 (a); Minn. R. 7011.8130
<i>Organic HAP:</i> less than 0.16 lb HAP/lb of coating solids for each new general use coating using a 12-month compliance period.	40 CFR Section 63.4490(a); Minn. R. 7011.8130
<i>Organic HAP:</i> less than 0.26 lb HAP/lb of coating solids for each new automotive lamp coating using a 12-month compliance period.	40 CFR Section 63.4490(a); Minn. R. 7011.8130
<i>Organic HAP:</i> less than 0.22 lb HAP/lb of coating solids for each new Thermoplastic Olefin (TPO) coating using a 12-month compliance period.	40 CFR Section 63.4490(a); Minn. R. 7011.8130
<i>Organic HAP:</i> less than 1.34 lbs HAP/lb of coating solids for each new assembled on-road vehicle coating ing using a 12-month compliance period.	40 CFR Section 63.4490(a); Minn. R. 7011.8130
<i>Organic HAP:</i> less than 12.4 lbs HAP/gal of coating solids for each new extreme performance fluoropolymer coating using a 12-month compliance period.	40 CFR Section 63.4490(a); Minn. R. 7011.8130

What to do	Why to do it
Existing Source: Must be in compliance with all applicable requirements by April 19, 2007.	40 CFR Section 63.4483(b); Minn. R. 7011.8130
<i>Organic HAP</i> : less than 0.16 lb HAP/lb of coating solids for each existing general use coating using a 12-month compliance period.	40 CFR Section 63.4490(b); Minn. R. 7011.8130
<i>Organic HAP</i> : less than 0.45 lb HAP/lb of coating solids for each existing automotive lamp coating using a 12-month compliance period.	40 CFR Section 63.4490(b); Minn. R. 7011.8130
<i>Organic HAP</i> : less than 0.26 lb HAP/lb of coating solids for each existing Thermoplastic Olefin (TPO) coating using a 12-month compliance period.	40 CFR Section 63.4490(b); Minn. R. 7011.8130
<i>Organic HAP</i> : less than 1.34 lbs HAP/lb of coating solids for each existing assembled on-road vehicle coating using a 12-month compliance period.	40 CFR Section 63.4490(b); Minn. R. 7011.8130
NOTIFICATION REQUIREMENTS	hdr
<i>Initial Notification for new or reconstructed source</i> : The Permittee must submit the notification by no later than 120 days after initial startup or 120 days after April, 19, 2004, whichever ever later. <i>Use Form 4P-01</i>	40 CFR Section 63.4510(b); Minn. R. 7011.8130
<i>Initial Notification for existing source</i> : The Permittee must submit the notification by April 19, 2005. <i>Use Form 4P-01</i>	40 CFR Section 63.4510(b); Minn. R. 7011.8130
<i>Notification of compliance status</i> . The Permittee must submit the notification of compliance status required by 40 CFR Section 63.9(h) no later than 30 calendar days following the end of the initial compliance period described in Sections 63.4540, 63.4550, or 63.4560 that applies to your affected source. The notification of compliance status must contain the information specified in 40 CFR 63.4510 Section (c)(1) through (11) of this section and in 40 CFR Section 63.9(h).	40 CFR Section 63.4510(c); Minn. R. 7011.8130
OPTIONS FOR MEETING THE EMISSION LIMITS ABOVE, THE PERMITTEE MAY DO ANY OF THE FOLLOWING	
Compliant Material Option: The Permittee must not exceed the organic HAP limit above, determined during the 12-month compliance period. Each thinner or other additive and cleaning material used must contain no organic HAP.	40 CFR Section 63.4491(a); Minn. R. 7011.8130
Emission Rate without Add-on Controls Option: The Permittee must demonstrate that, based on the coatings, thinners, and/or other additives, and cleaning materials used in the coating operations, the organic HAP emission rate is less than the emission limit above, calculated as a rolling 12-month emission rate and determined on a monthly basis.	40 CFR Section 63.4491(b); Minn. R. 7011.8130
Emission Rate with Add-on Controls Option: The Permittee must demonstrate that, based on the coatings, thinners, and/or other additives, and cleaning materials used in the coating operations, (including emission capture systems and add-on control), the organic HAP emission rate for the coating operation(s) is less than the emission limit above, calculated as a rolling 12-month emission and determined on a monthly basis.	40 CFR Section 63.4491(c); Minn. R. 7011.8130

What to do	Why to do it
<p>Facility-Specific Emission Limit: The Permittee may comply with a facility-specific emission limit calculated from the relative amount of coating activity that is subject to each emission limit. If you elect to comply using the facility-specific emission limit alternative, then compliance with the facility-specific emission limit and the emission limitations in for all surface coating operations constitutes compliance with this subpart and other applicable surface coating NESHAP. The procedures for calculating the facility-specific emission limit are specified in 40 CFR Section 63.4490. In calculating a facility-specific emission limit, you must include coating activities that meet the applicability criteria of other surface coating NESHAP and constitute more than 1 percent of total coating activities at your facility. You must not consider any surface coating activity that is subject to the Surface Coating of Automobiles and Light-Duty Trucks NESHAP (40 CFR part 63, subpart IIII) in determining a facility-specific emission limit for your facility. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than 1 percent of total coating activities need not be included in the calculation of the facility-specific emission limit must be included in the compliance calculations.</p>	<p>40 CFR Section 63.4881(e); Minn. R. 7011.8130</p>
<p><i>Semiannual compliance reports.</i> The Permittee must submit semiannual compliance reports for each affected source according to the requirements of 40 CFR Section 63.4520 (a)(1) through (7).</p>	<p>40 CFR Section 63.4520; Minn. R.7011.8130</p>
<p>RECORDKEEPING REQUIREMENTS</p>	<p>hdr</p>
<p>Recordkeeping: The Permitte must collect and keep records of the data and information specified in 40 CFR 63.4530. Failure to collect and keep these records is a deviation from the applicable standard.</p>	<p>40 CFR Section 63.4530; Minn. R. 7011.8130</p>

The following are the requirements of the National Emission Standards for Reinforced Plastics Composites Production (40 CFR pt. 63, subp. WWW)

(**New Source:** constructed or reconstructed after August 2, 2001, AND no other reinforced plastics composites affected source existed at the site when constructed commenced.)

(**Existing Source:** constructed on or before August 2, 2001. Existing sources are not considered new as a result of reconstructed.)

Subject Item:	EU 500	Molding, Casting, Lamination, Mixing and Cleaning
---------------	--------	---

What to do	Why to do it
A. GENERAL COMPLIANCE REQUIREMENTS	hdr
<i>New Source:</i> Must be in compliance with applicable requirements listed below immediately upon startup or April 21, 2003, or immediately upon becoming a major source	40 CFR Section 63.5800; Minn. R. 7011.7800
<i>Existing Source:</i> Must be in compliance with applicable requirements listed below by April 21, 2006, OR 3 years after becoming a major source, whichever is later.	40 CFR Section 63.5800; Minn. R. 7011.7800
<i>Emission Limits and Work Practice Standards for New and Existing Sources:</i> The Permittee must be: (a) in compliance at all times with the work practice standards in Table 4 to this subpart, as well as the organic HAP emissions limits in Tables 3 or the organic HAP content limits in Table 7, as applicable, that you are meeting without the use of add-on controls. (b) in compliance with all organic HAP emissions limits as listed that you meet using add-on controls, except during periods of startup, shutdown, and malfunction.	40 CFR Section 63.5835(a) –(b); Minn. R. 7011.7800
<i>HAP Limit:</i> Any new facility or existing facilities that emits less than 100 tpy of HAP from the combination of all open molding, casting, lamination, manufacturing and mixing, the Permittee must meet the organic HAP emissions limits in Table 3 and the work practice standards in Table 4 of this permit that applies to you.	40 CFR Section 63.5805; Minn. R. 7011.7800
<i>Startup, shutdown and malfunction Plan:</i> The Permittee must develop a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR Section 63.6(e)(3) for any organic HAP emissions limits you meet using an add-on control.	40 CFR Section 63.5835(d); Minn. R. 7011.7800
<i>Monitoring Requirements:</i> The Permittee must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR Section 63.6(e)(1)(i).	40 CFR Section 63.5835(c); Minn. R. 7011.7800
B. TESTING AND INITIAL COMPLAINECE DEMONSTRATION REQUIREMENTS	hdr
<i>Initial Performance Testing:</i> The Permittee must conduct performance tests, performance evaluations, design evaluations, capture efficiency testing, and other initial compliance demonstrations by the compliance date specified in Table 2 to Subpart WWW, with three exceptions. Open molding and centrifugal casting operations that elect to meet an organic HAP emissions limit on a 12-month rolling average must initiate collection of the required data on the compliance date, and demonstrate compliance 1 year after the compliance date. New sources that use add-on controls to initially meet compliance must demonstrate compliance within 180 days after their compliance date.	40 CFR Section 63.5840; Minn. R. 7011.7800

What to do	Why to do it
<p><i>Initial Compliance:</i> The Permittee demonstrate initial compliance with each organic HAP emissions standard 40 CFR Section 63.5805 that applies to you by using the procedures shown in Tables 8 and 9 to Subpart WWW.</p> <p>If the Permittee is using an add-on control device to demonstrate compliance, you must also establish each control device operating limit in 40 CFR pt. 63, subpart SS; that applies to you.</p>	40 CFR Section 63.5860; Minn. R. 7011.7800
<p><i>Performance Tests:</i> due every 5 years following the initial performance test for any standard the Permittee meets with an add-on control device, if applicable</p>	40 CFR Section 63.5845; Minn. R. 7011.7800
<p><i>Performance Tests and Evaluations:</i> If you are using any add-on controls to meet an organic HAP emission limit in Subpart WWW, the Permittee must conduct each performance test, performance evaluation, and design evaluation in 40 CFR pt. 63, subp. SS, that applies to you. The basic requirements for performance tests, performance evaluations, and design evaluations are presented in Table 6 to Subpart WWW.</p>	40 CFR Section 63.5850; Minn. R. 7011.7800
<p><i>Monitoring Add On Control Device Requirements:</i> The Permittee must monitor and operate all add-on control devices according to the procedures in 40 CFR pt. 63, subp. SS</p>	40 CFR Section 63.5855; Minn. R. 7011.7800
C. CONTINUOUS COMPLIANCE REQUIREMENTS	hdr
<p><i>Monitor and Collect Data to Demonstrate Continuous if Using an Add-On Control Device:</i> During production, the Permittee must collect and keep record of data as indicated in 40 CFR pt. 63, subp. SS.</p>	40 CFR Section 63.5895 (a); Minn. R. 7011.7800
<p><i>Monitor and Collect Data to Demonstrate Continuous if not Using an Add-On Control Device:</i> The Permittee must monitor and collect data as specified in paragraphs (1) through (4).</p> <p>(1) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation (or collect data at all required intervals) at all times that the affected source is operating.</p> <p>(2) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities for purposes to this subpart, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.</p> <p>(3) At all times, you must maintain necessary parts for routine repairs of the monitoring equipment.</p> <p>(4) A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring equipment to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.</p>	40 CFR Section 63.5895 (b)(1) through (4); Minn. R. 7011.7800
<p><i>Recording and Recordkeeping to meet any organic HAP emissions limits in Table 3 of Subpart WWW:</i> The Permittee collect and keep records of resin and gel coat use, organic HAP content, and operation where the resin is used if you are meeting any organic HAP emissions limits based on an organic HAP emissions limit in Table 3 of Subpart WWW. You must collect and keep records of resin and gel coat use, organic HAP contents limits listed in Table 7 of Subpart WWW, if you are averaging organic HAP contents. Resin use records may be based on purchase records if you can reasonably estimate how the resin is applied. The organic HAP content records may be based on MSDS or on resin specifications supplied by the resin supplier.</p>	40 CFR Section 63.5895 (c); Minn. R. 7011.7800

What to do	Why to do it
<i>Recording and Recordkeeping for all resins and gel coats for initial demonstration:</i> If you initially demonstrate that all resins and gel coats individually meet the applicable organic HAP emissions limits, or organic HAP content limits, then resin and gel coat use records are not required. However, you must include a statement in each compliance report that all resins and gel coats still meet the organic HAP limits for compliant resins and gel coats shown in Tables 3 or 7 of Subpart WWW. If after this initial demonstration, you change to a higher organic HAP resin or gel coat, or increase the resin or gel coat organic HAP content, or change to a higher-emitting resin or gel coat application method, then you must either again demonstrate that all resins and gel coats still meet the applicable organic HAP emissions limits, or begin collecting resin and gel coat use records and calculate compliance on a 12-month rolling average.	40 CFR Section 63.5895 (d); Minn. R. 7011.7800
D. NOTIFICATIONS REQUIREMENTS	hdr
<i>Initial Notification for an existing source:</i> The Permittee must submit an initial notification with the information specified in 40 CFR Section 63.9(b)(c), no later than 120 calendar days after April 21, 2004, (or within 120 calendar days after the source becomes subject to Subpart WWW). <i>Use Form 4W-01.</i>	40 CFR Section 63.9(b)(c); 40 CFR Section 63.5905(a); Minn. R. 7011.7800
<i>Initial Notification for a new source:</i> The Permittee must submit an initial notification with the information specified in 40 CFR Section 63.9(b)(4) and (5), delivered or postmarked within 15 calendar days after the actual date of startup of the source. <i>Use Form 4W-01</i>	40 CFR Section 63.9(b)(4) and (5); 40 CFR Section 63.5905(a); Minn. R. 7011.7800
<i>Notice of Compliance Status:</i> The Permittee must submit a notification of compliance status as specified in 40 CFR Section 63.9 if you are complying with organic HAP contents limits, application equipment requirements or organic HAP emissions limit other than organic HAP emission limit averaging no later than 30 calendar days after your facility's compliance date.	40 CFR Section 63.9(h); 40 CFR Section 63.5905(a); Minn. R. 7011.7800.
<i>Notification of Performance Test:</i> The Permittee shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Administrator to review and approve the site-specific test plan required under 40 CFR Section 63.7(c), if requested by the Administrator, and to have an observer present during the test.	40 CFR Section 63.9(e); 40 CFR Section 63.5905(a); Minn. R. 7011.7800
<i>Additional notification requirements for sources with continuous monitoring systems(CMS):</i> The Permittee of an affected source required to use a CMS by a relevant standard shall furnish the Administrator written notification as follows: A notification of the date the CMS performance evaluation under 40 CFR Section 63.8(e) is scheduled to begin, submitted simultaneously with the notification of the performance test date required under 40 CFR Section 63.7(b). If no performance test is required, or if the requirement to conduct a performance test has been waived for an affected source under 40 CFR Section 63.7(h), the Permittee shall notify the Administrator in writing of the date of the performance evaluation at least 60 calendar days before the evaluation is scheduled to begin.	40 CFR Section 63.9(g); 40 CFR Section 63.5905(a); Minn. R. 7011.7800
<i>Notification of Compliance Status:</i> The Permittee shall notify the Administrator no later than 60 days after the completion of the add-on control device performance test and CMS performance evaluation.	40 CFR Section 63.9(h); 40 CFR Section 63.5905(a); Minn. R. 7011.7800
<i>Notification of Changes to Previous Notifications:</i> The Permittee must submit the changes in writing to the Administrator within 15 calendar days after the change, if the Permittee changed any information submitted in any previous notification.	40 CFR Section 63.5905(b); Minn. R. 7011.7800

What to do	Why to do it
E. RECORDKEEPING REQUIREMENTS	hdr
<p><i>Records:</i> The Permittee must keep the records of the following:</p> <p>(a)(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in 40 CFR Section 63.10(b)(2)(xiv).</p> <p>(2) The records in 40 CFR Section 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.</p> <p>(3) Records of performance tests, design, and performance evaluations as required in 40 CFR Section 63.10(b)(2).</p> <p>(b) If you use an add-on control device, you must keep all records required in 40 CFR pt. 63, subpart SS, to show continuous compliance.</p> <p>(c) You must keep all data, assumptions, and calculations used to determine organic HAP emissions factors or average organic HAP contents for operations listed in Tables 3, 5, and 7 of Subpart WWWW.</p> <p>(d) You must keep a certified statement that you are in compliance with the work practice requirements in Table 4 of Subpart WWWW, as applicable.</p> <p>(e) For a new or existing continuous lamination/ casting operation, you must keep the records listed in paragraphs (e)(1) through (4) of this section, when complying with the percent reduction and/or lbs/ton requirements specified in paragraphs (a) and (c) through (d) of 40 CFR Section 63.5805.</p> <p>(1) You must keep all data, assumptions, and calculations used to determine percent reduction and/or lbs/ton as applicable;</p> <p>(2) You must keep a brief description of the rationale for the assignment of an equation or factor to each formula;</p> <p>(3) When using facility-specific organic HAP emissions estimation equations or factors, you must keep all data, assumptions, and calculations used to derive the organic HAP emissions estimation equations and factors and identification and rationale for the worst-case formula; and</p> <p>(4) For all organic HAP emissions estimation equations and organic HAP emissions factors, you must keep documentation that the appropriate permitting authority has approved them.</p>	<p>40 CFR Section 63.5915; Minn. R. 7011.7800</p>

What to do	Why to do it
<p><i>Records Retention:</i> The Permittee must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection according to 40 CFR Section 63.10(b)(1).</p> <p>As specified in 40 CFR Section 63.10(b)(1), the Permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.</p> <p>The Permittee must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to Section 63.10(b)(1). You can keep the records offsite for the remaining 3 years.</p> <p>The Permittee may keep records in hard copy or computer readable form including, but not limited to, paper, microfilm, computer floppy disk, magnetic tape, or microfiche.</p>	<p>40 CFR Section 63.5920; Minn. R. 7011.7800</p>
<p>F. REPORTING REQUIREMENTS</p>	<p>hdr</p>
<p><i>Compliance Report with No Deviations:</i> The Permittee must submit a semiannually report. The report must contain a statement that there were no deviations during the that reporting period if there were no deviations from any emission limitations (emission limit, operating limit, opacity limit, and visible emission limit) that apply to you and there were no requirements for work practice standards in Table 4 that apply to you. If there were no periods during operating parameter monitoring systems, was out of in 40 CFR Section 63.8(c)(7), the report must also contain a statement that there were no periods during which the CMS was out of control during the reporting period.</p>	<p>40 CFR Section 63.5910(b); Minn. R. 7011.7800</p>
<p><i>Compliance Report with Deviations:</i> The Permittee must submit a semiannually report. The report must contain the information in 40 CFR Section 63.5910(d), if you have a deviation from any emission limitation (emission limit, operating limit, or work practice standard) during the reporting period. If there were periods during which the CMS and operating parameters monitoring systems, was out of control, as specified in 40 CFR Section 63.8(C)(7), the report must contain the information in 40 CFR Section 63.5910(e).</p>	<p>40 CFR Section 63.5910(b); Minn. R. 7011.7800</p>
<p><i>Compliance Report with Startup, Shutdown or Malfunction:</i> The Permittee must submit a semiannually report. The report must contain the information in 40 CFR Section 63.10(d)(5)(i) if the Permittee had a startup, shutdown or malfunction during the reporting period, and took actions consistent with your startup, shutdown, and malfunction plan.</p>	<p>40 CFR Section 63.5910(b); Minn. R. 7011.7800</p>
<p><i>Reporting HAP Emissions Exceedance:</i> The Permittee must report if you have exceeded the 100 tpy organic HAP emissions threshold if that exceedance would make your facility subject to 40 CFR Section 63.5805(a)(1) or (d). Include with this report any request for an exemption under 40 CFR Section 63.5805(e). If you receive an exemption under 40 CFR Section 63.5805(e) and subsequently exceed the 100 tpy organic HAP emissions threshold, you must report this exceedance as required in 40 CFR Section 63.5805(f).</p>	<p>40 CFR Section 63.5910 (f); Minn. R. 7011.7800</p>
<p><i>Immediate Startup, shutdown and Malfunction Report:</i> The Permittee must submit actions taken for the event by fax or telephone within 2 working days after starting actions inconsistent with the plan.</p>	<p>40 CFR Section 63.5910(h); Minn. R. 7011.7800</p>
<p><i>Immediate Startup, shutdown and Malfunction Report:</i> The Permittee must submit the information in 40 CFR 63.10(d)(5)(ii) by letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority.</p>	<p>40 CFR Section 63.5910(h); 40 CFR Section 63.10(d)(5)(ii); Minn. R. 7011.7800</p>

Table 1 of Subpart WWW: The Permittee shall use Equations in the following Table to Calculate Organic HAP Emissions Factors for Specific Open Molding and Centrifugal Casting Process Streams¹

If your operation type is new or existing.....	And you use.....	With.....	Use the organic HAP Emission Factor (EF) Equation for materials with less than 33 percent organic HAP (19% organic HAP for nonatomized gel coat) ^{2,3,4} ...	Use the organic HAP Emission Factor (EF) Equation for materials with 33 percent or more organic HAP (19% organic HAP for nonatomized gel coat) ^{2,3,4} ...
1. Open molding operation	a. Manual resin application	i. nonvapor-suppressed resin	$EF = 0.126 \times \% \text{ HAP} \times 2000$	$EF = ((0.286 \times \% \text{ HAP}) - 0.0529) \times 2000$
		..... ii. vapor-suppressed resin	$EF = 0.126 \times \% \text{ HAP} \times 2000 \times (1 - (0.5 \times \text{VSE factor}))$	$EF = ((0.286 \times \% \text{ HAP}) - 0.0529) \times 2000 \times (1 - (0.5 \times \text{VSE factor}))$
		..... iii. vacuum bagging/closed mold curing with roll-out	$EF = 0.126 \times \% \text{ HAP} \times 2000 \times 0.8$	$EF = ((0.286 \times \% \text{ HAP}) - 0.0529) \times 2000 \times 0.8$
		..... iv. vacuum bagging/closed mold curing without roll-out	$EF = 0.126 \times \% \text{ HAP} \times 2000 \times 0.5$	$EF = ((0.286 \times \% \text{ HAP}) - 0.0529) \times 2000 \times 0.5$
	b. atomized mechanical resin application	i. nonvapor-suppressed resin	$EF = 0.169 \times \% \text{ HAP} \times 2000$	$EF = ((0.714 \times \% \text{ HAP}) - 0.18) \times 2000$
		..... ii. vapor-suppressed resin	$EF = 0.169 \times \% \text{ HAP} \times 2000 \times (1 - (0.45 \times \text{VSE factor}))$	$EF = ((0.714 \times \% \text{ HAP}) - 0.18) \times 2000 \times (1 - (0.45 \times \text{VSE factor}))$
		..... iii. vacuum bagging/closed mold curing with roll-out	$EF = 0.169 \times \% \text{ HAP} \times 2000 \times 0.85$	$EF = ((0.714 \times \% \text{ HAP}) - 0.18) \times 2000 \times 0.85$
		..... iv. vacuum bagging/closed mold curing without roll-out	$EF = 0.169 \times \% \text{ HAP} \times 2000 \times 0.55$	$EF = ((0.714 \times \% \text{ HAP}) - 0.18) \times 2000 \times 0.55$
	c. nonatomized mechanical resin application	i. nonvapor-suppressed resin	$EF = 0.107 \times \% \text{ HAP} \times 2000$	$EF = ((0.157 \times \% \text{ HAP}) - 0.0165) \times 2000$
		..... ii. vapor-suppressed resin	$EF = 0.107 \times \% \text{ HAP} \times 2000 \times (1 - (0.45 \times \text{VSE factor}))$	$EF = ((0.157 \times \% \text{ HAP}) - 0.0165) \times 2000 \times (1 - (0.45 \times \text{VSE factor}))$

If your operation type is new or existing.....	And you use.....	With.....	Use the organic HAP Emission Factor (EF) Equation for materials with less than 33 percent organic HAP (19% organic HAP for nonatomized gel coat) ^{2,3,4} ...	Use the organic HAP Emission Factor (EF) Equation for materials with 33 percent or more organic HAP (19% organic HAP for nonatomized gel coat) ^{2,3,4} ...
		..... iii. vacuum bagging/closed mold curing with roll-out iv. vacuum bagging/closed mold curing without roll-out .....	..... $EF = 0.107 \times \% \text{ HAP} \times 2000 \times 0.85$ $EF = 0.107 \times \% \text{ HAP} \times 2000 \times 0.55$ .....	..... $EF = ((0.157 \times \% \text{ HAP}) - 0.0165) \times 2000 \times 0.85$ $EF = ((0.157 \times \% \text{ HAP}) - 0.0165) \times 2000 \times 0.55$
	d. atomized mechanical resin application with robotic or automated spray control ⁵	nonvapor-suppressed resin	$EF = 0.169 \times \% \text{ HAP} \times 2000 \times 0.77$	$EF = 0.77 \times ((0.714 \times \% \text{ HAP}) - 0.18) \times 2000$
	e. filament application ⁶	i. nonvapor-suppressed resin ii. vapor-suppressed resin	$EF = 0.184 \times \% \text{ HAP} \times 2000$ $EF = 0.12 \times \% \text{ HAP} \times 2000$	$EF = ((0.2746 \times \% \text{ HAP}) - 0.0298) \times 2000$ $EF = ((0.2746 \times \% \text{ HAP}) - 0.0298) \times 2000 \times 0.65$
	f. atomized spray gel coat application	nonvapor-suppressed gel coat	$EF = 0.445 \times \% \text{ HAP} \times 2000$	$EF = ((1.03646 \times \% \text{ HAP}) - 0.195) \times 2000$
	g. nonatomized spray gel coat application	nonvapor-suppressed gel coat	$EF = 0.185 \times \% \text{ HAP} \times 2000$	$EF = ((0.4506 \times \% \text{ HAP}) - 0.0505) \times 2000$
	h. atomized spray gel coat application using robotic or automated spray	nonvapor-suppressed gel coat	$EF = 0.445 \times \% \text{ HAP} \times 2000 \times 0.73$	$EF = ((1.03646 \times \% \text{ HAP}) - 0.195) \times 2000 \times 0.73$
2. Centrifugal casting operations ^{7,8}	a. heated air blown through molds	nonvapor-suppressed gel coat	$EF = 0.558 \times \% \text{ HAP} \times 2000$	$EF = 0.558 \times \% \text{ HAP} \times 2000$
	b. vented molds, but air vented through the molds is not heated.	nonvapor-suppressed gel coat	$EF = 0.026 \times \% \text{ HAP} \times 2000$	$EF = 0.026 \times \% \text{ HAP} \times 2000$

Footnotes

¹ The equations are intended for use in calculating emission factors to demonstrate compliance with the emission limits in Subpart WWWW. These equations may not be the most appropriate method to calculate emission estimates for other purposes. However, this does not preclude a facility from using the equations to calculate emission factors for purposes then rule compliance if these equations are the most accurate available.

² To obtain the organic HAP emissions factor value for an operation with an add-on control device multiply the EF above by the add-on control factor calculated using Equation 1 of Sec. 63.5810. The organic HAP emissions factors have units of lbs of organic HAP per ton of resin or gel coat applied.

³ Percent HAP means total weight percent of organic HAP (styrene, methyl methacrylate, and any other organic HAP) in the resin or gel coat prior to the addition of fillers, catalyst, and promoters. Input the percent HAP as a decimal, i.e. 33 percent HAP should be input as 0.33, not 33.

⁴ The VSE factor means the percent reduction in organic HAP emissions expressed as a decimal measured by the VSE test method of appendix A to subpart WWWW.

⁵ This equation is based on a organic HAP emissions factor equation developed for mechanical atomized controlled spray. It may only be used for automated or robotic spray systems with atomized spray. All spray operations using hand held spray guns must use the appropriate mechanical atomized or mechanical nonatomized organic HAP emissions factor equation. Automated or robotic spray systems using nonatomized spray should use the appropriate nonatomized mechanical resin application equation.

⁶ Applies only to filament application using an open resin bath. If resin is applied manually or with a spray gun, use the appropriate manual or mechanical application organic HAP emissions factor equation.

⁷ These equations are for centrifugal casting operations where the mold is vented during spinning. Centrifugal casting operations where the mold is completely sealed after resin injection are considered to be closed molding operations.

⁸ If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, use the appropriate open molding equation with covered cure and no rollout to determine an emission factor for operations prior to the closing of the centrifugal casting mold. If the closed centrifugal casting mold is vented during spinning, use the appropriate centrifugal casting equation to calculate an emission factor for the portion of the process where spinning and cure occur. If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, and the mold is then closed and is not vented, treat the entire operation as open molding with covered cure and no rollout to determine emission factors.

**TABLE 3 of Subpart WWW: ORGANIC HAP EMISSION LIMITS FOR EXISTING SOURCES AND FOR NEW SOURCES
LESS THAN 100 TONS PER YEAR (TPY)**

Type of Material and/or Application	Limits by Type of Operation (lb/ton) based on a 12-month Rolling Average					
	Mechanical	Filament	Manual	Centrifugal Casting	Gelcoat	Continuous Lamination/ Casting
Open molding-corrosion- resistant and/or high strength (CR/HS)	113	171	123	25	605	
Open molding –non- CR/HS	88	188	87	20		
Open molding-Tooling	254		157		440	
Open molding-Low- Flame/Low Smoke Resin	497	270	238		854	
Open molding – Shrinkage controlled	354	215	180			
Open molding- White/off-white pigmented coat					267	
Open molding- All other pigmented gel coating					377	
Clear gel coat					522	
All resins						15.7 lb/ton OR 58.5 % reduction

TABLE 4 of Subpart WWW: WORK PRACTICE STANDARDS

For.....	You must.....
1. a new or existing closed molding operation using compression/injection molding.	uncover, unwrap or expose only one charge per mold cycle per compression/injection molding machine. For machines with multiple molds, one charge means sufficient material to fill all molds for one cycle. For machines with robotic loaders, no more than one charge may be exposed prior to the loader. For machines fed by hoppers, sufficient material may be uncovered to fill the hopper. Hoppers must be closed when not adding materials. Materials may be uncovered to feed to slitting machines. Materials must be recovered after slitting.
2. a new or existing cleaning operation.	not use cleaning solvents that contain HAP, except that styrene may be used as a cleaner in closed systems, and organic HAP containing cleaners may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin.
3. a new or existing material HAP-containing material storage operation.	keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety.
4. an existing or new sheet molding compound (SMC) manufacturing operation.	close or cover the resin delivery system to the doctor box on each SMC manufacturing machine. The doctor box itself may be open.
5. an existing or new SMC manufacturing operation.	use a nylon containing film to enclose SMC.
6. all mixing or bulk molding compound (BMC) manufacturing operations ¹	use mixer covers with no visible gaps present in the mixer covers, except that gaps of up to 1 inch are permissible around mixer shafts and any required instrumentation.
7. all mixing or BMC manufacturing operations ¹	close any mixer vents when actual mixing is occurring, except that venting is allowed during addition of materials, or as necessary prior to adding materials or opening the cover for safety. Vents routed to a 95 percent efficient control device are exempt from this requirement.
8. all mixing or BMC manufacturing operations ¹	keep the mixer covers closed while actual mixing is occurring except when adding materials or changing covers to the mixing vessels.

¹ Containers of 5 gallons or less may be open when active mixing is taking place, or during periods when they are in process (i.e., they are actively being used to apply resin). For polymer casting mixing operations, containers with a surface area of 500 square inches or less may be open while active mixing is taking place.

Table 5: Alternative Organic HAP Emissions Limits for Open Molding, Centrifugal Casting, and SMC Manufacturing Operations Where the Standards Are Based on a 95 Percent Reduction Requirement

As specified in 40 CFR Section 63.5805, as an alternative to the 95 percent organic HAP emissions reductions requirement, the Permittee may meet the appropriate organic HAP emissions limits in the following table:

If your operation type is . . .	And you use . . .	Your organic HAP emissions limit is a¹. ..
1. Open molding—corrosion-resistant and/or high strength (CR/HS)	a. Mechanical resin application	6 lb/ton.
	b. Filament application	9 lb/ton.
	c. Manual resin application	7 lb/ton.
2. Open molding—non-CR/HS	a. mechanical resin application	13 lb/ton.
	b. Filament application	10 lb/ton.
	c. Manual resin application	5 lb/ton.
3. Open molding—tooling	a. Mechanical resin application	13 lb/ton.
	b. Manual resin application	8 lb/ton.
4. Open molding—low flame spread/low smoke products	a. Mechanical resin application	25 lb/ton.
	b. Filament application	14 lb/ton.
	c. Manual resin application	12 lb/ton.
5. Open molding—shrinkage controlled resins	a. Mechanical resin application	18 lb/ton.
	b. Filament application	11 lb/ton.
	c. Manual resin application	9 lb/ton.
6. Open molding—gel coat ²	a. Tooling gel coating	22 lb/ton.
	b. White/off white pigmented gel coating	22 lb/ton.
	c. All other pigmented gel coating	19 lb/ton.
	d. CR/HS or high performance gel coat	31 lb/ton.
	e. Fire retardant gel coat	43 lb/ton.

If your operation type is . . .	And you use . . .	Your organic HAP emissions limit is a¹. . .
	f. Clear production gel coat	27 lb/ton.
7. Centrifugal casting—CR/HS ^{3,4}	A vent system that moves heated air through the mold	27 lb/ton.
8. Centrifugal casting—non-CR/HS ^{3,4}	A vent system that moves heated air through the mold	21 lb/ton.
7. Centrifugal casting—CR/HS ^{3,4}	A vent system that moves ambient air through the mold	2 lb/ton.
8. Centrifugal casting—non-CR/HS ^{3,4}	A vent system that moves ambient air through the mold	1 lb/ton.
9. SMC Manufacturing	N/A	2.4 lb/ton.

¹Organic HAP emissions limits for open molding and centrifugal casting expressed as lb/ton are calculated using the equations shown in Table 1 to this subpart. You must be at or below these values based on a 12-month rolling average.

²These limits are for spray application of gel coat. Manual gel coat application must be included as part of spray gel coat application for compliance purposes using the same organic HAP emissions factor equation and organic HAP emissions limit. If you only apply gel coat with manual application, treat the manually applied gel coat as if it were applied with atomized spray for compliance determinations.

³Centrifugal casting operations where the mold is not vented during spinning and cure are considered to be closed molding and are not subject to any emissions limit. Centrifugal casting operations where the mold is not vented during spinning and cure, and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques are considered to be open molding operations and the appropriate open molding emission limits apply.

⁴Centrifugal casting operations where the mold is vented during spinning and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques, use the appropriate centrifugal casting emission limit to determine compliance. Calculate your emission factor using the appropriate centrifugal casting emission factor in Table 1 to this subpart, or a site specific emission factor as discussed in 40 CFR Section 63.5796.

Table 7 of Subpart WWWW: Options Allowing Use of the Same Resin Across Different Operations That Use the Same Resin Type

If your facility has the following resin type and application method.....	The highest resin weight is * * percent organic HAP content, or weighted average weight percent organic HAP content, you can use for . . .	Is
1. CR/HS resins, centrifugal casting ^{1,2}	a. CR/HS mechanical b. CR/HS filament application c. CR/HS manual	³ 48.0 48.0 48.0
2. CR/HS resins, nonatomized mechanical	a. CR/HS filament application b. CR/HS manual	46.4 46.4
3. CR/HS resins, filament application	CR/HS manual	42.0
4. non-CR/HS resins, filament application	a. non-CR/HS mechanical b. non-CR/HS manual c. non-CR/HS centrifugal casting ^{1,2}	³ 45.0 45.0 45.0
5. non-CR/HS resins, nonatomized mechanical	a. non-CR/HS manual b. non-CR/HS centrifugal casting ^{1,2}	38.5 38.5
6. non-CR/HS resins, centrifugal casting ^{1,2}	non-CR/HS manual	37.5
7. tooling resins, nonatomized mechanical	tooling manual	91.4
8. tooling resins, manual	tooling atomized mechanical	45.9

¹ If the centrifugal casting operation blows heated air through the molds, then 95 percent capture and control must be used if the facility wishes to use this compliance option.

² If the centrifugal casting molds are not vented, the facility may treat the centrifugal casting operations as if they were vented if they wish to use this compliance option.

³ Nonatomized mechanical application must be used.

The following are the requirements of the National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (40 CFR pt. 63, subp. ZZZZ)

New Source: constructed or reconstructed on or after December 19, 2002

Existing Source: constructed or reconstructed before December 19, 2002

Subject Item:	EU 400	Internal Combustion Engines (existing, new, or reconstructed stationary RICE with a site-rating of more than 500 brake horsepower)
---------------	--------	---

What to do	Why to do it
Existing Source: Must be in compliance with all applicable emission limitations and operating limitations no later than June 15, 2007	40 CFR Section 63.6595(a)(1)
Exemptions: The following stationary Reciprocating Internal Combustion Engines(RICE) are exempt from 40 CFR pt. 63, subpart ZZZZ: 1. An existing spark ignition 2 stroke lean burn (2SLB) stationary RICE; 2. An existing spark ignition 4 stroke lean burn (4SLB) stationary RICE; 3. An existing compression ignition (CI) stationary RICE; 4. An existing emergency stationary RICE; 5. An existing limited use stationary RICE; and 6. An existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. Does not have to meet the requirements of subpart ZZZZ and of subpart A. No initial notification is necessary.	40 CFR Section 63.6590(b)(3); Minn. R. 7011.8150
Recordkeeping for Existing Exempt Sources: The Permittee must keep records of the applicability determination for five years.	40 CFR Section 63.10(b)(3); Minn. R. 7011.8150
New Source or Reconstructed Source: Must be in compliance with the applicable emission limitations and operating limitations by August 16, 2004 or upon startup, whichever is later.	40 CFR Section 63.6595(a)(3); Minn. R. 7011.8150
Exemptions: The following stationary RICE are exempt from 40 CFR pt. 63, subpart ZZZZ: 1. A new or reconstructed emergency stationary RICE; 2. A new or reconstructed limited use stationary RICE Does not have to meet the requirements of subpart ZZZZ or of subpart A, but must meet the initial notification requirements of 40 CFR Section 63.6645(d)	40 CFR Section 63.6665; 40 CFR 63.9(b)(2) Minn. R. 7011.8150
Initial Notification for New or Reconstructed Source: If the Permittee is required to submit an Initial Notification but are otherwise not affected by the requirements of subpart ZZZZ, in accordance with 40 CFR Section 63.6590(b), the Permittee notification should include the information in 40 CFR Section 63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE). <i>Use Form 4Z-01</i>	40 CFR Section 63.6645(d); 40 CFR Section 63.9(b)(2); Appendix O Minn. R. 7011.8150

What to do	Why to do it
Initial Notification: If Permittee starts up your new or reconstructed stationary RICE on or after August 16, 2004, the Permittee must submit an Initial Notification not later than 120 days after you become subject to subpart ZZZZ. <i>Use Form 4Z-01.</i>	40 CFR Section 63.6645(c); Appendix O; Minn. R. 7011.8150
Emission Limitations: The owner or operator of an existing, new, or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a of 40 CFR pt. 63, subp. ZZZZ and the operating limitations in Table 1b of 40 CFR pt. 63, subp. ZZZZ which apply to you.	40 CFR Section 63.6600(a); Minn. R. 7011.8150
Emission Limitations: The owner or operator of a new or reconstructed 2SLB or 4SLB stationary RICE or a new or reconstructed CI stationary RICE located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a of 40 CFR pt. 63, subp. ZZZZ and the operating limitations in Table 2b of 40 CFR pt. 63, subp. ZZZZ which apply to you.	40 CFR Section 63.6600(b); Minn. R. 7011.8150
Initial Compliance: The owner or operator must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of 40 CFR pt. 63, subp. ZZZZ; During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of 40 CFR pt. 63, subp. ZZZZ that applies to you; and You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR Section 63.6645.	40 CFR Section 63.6630; Minn. R. 7011.8150
Recordkeeping: The owner or operator must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(3): (1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR Section 63.10(b)(2)(xiv). (2) The records in 40 CFR Section 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction. (3) Records of performance tests and performance evaluations as required in 40 CFR Section 63.10(b)(2)(viii).	40 CFR Section 63.6655; Minn. R. 7011.8150
Reports: The owner or operator must submit each report in Table 7 of 40 CFR pt. 63, subp. ZZZZ that applies to you. Unless the Administrator has approved a different schedule for submission of reports under 40 CFR Section 63.10(a), you must submit each report by the date in Table 7 of subpart ZZZZ and according to the requirements in 40 CFR Section 63.6650 (b)(1) through (5) of this section.	40 CFR Section 63.6650; Minn. R. 7011.8150

Only storage tanks less than 151 cubic meters (39, 890 gallons).

Subject Item:	TK 100	Storage Tanks (Constructed, modified or reconstructed after July 23, 1984).
---------------	--------	---

What to do	Why to do it
Recordkeeping: Maintain records showing the dimension of the storage tank and an analysis showing the capacity of the storage tanks.	40 CFR Section 60.116b (b); Minn. R. 7011.1520 (C)

Storage tanks placed in operation on July 7, 1969, to June 11, 1973.

Subject Item:	TK 100	Storage Tanks (Storage capacity of greater than 7,571 liters (2, 000 gallons) and less than or equal to 246,405 liters (65,000 gallons).
---------------	--------	--

What to do	Why to do it
The storage tank shall be equipped with a permanent submerged fill pipe.	Minn. R. 7011.1505, subp. 2(B)

Storage tanks placed in operation after June 11, 1973, and not subject to NSPS. This permit authorizes only storage tanks less than 151 cubic meters (39, 890 gallons).

Subject Item:	TK 100	Storage Tanks (Storage capacity of greater than 7,571 liters (2, 000 gallons) and less than or equal to 151,412 liters (40,000 gallons).
---------------	--------	--

What to do	Why to do it
The storage tank shall be equipped with a permanent submerged fill pipe.	Minn. R. 7011.1505, subp. 3 (B)

This carat (<>) means to input a numerical number according to the design of the fabric filter. The Permittee shall record this data in the Operation and Maintenance (O & M) plan within 30 days after permit issuance or 30 days after installation of any new control equipment for which there are such operating parameters requirements.

Subject Item:	CE 100	Fabric Filters
Associated Item:	EU 500	Spraying/Coating Booths, Sanding, Molding, Casting, Lamination, Mixing or Cleaning

What to do	Why to do it
The Permittee shall operate and maintain the fabric filter (CE IXX) at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14
Operation and Maintenance of Fabric Filter: The Permittee shall operate and maintain the fabric filter 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. 7011.0080; Minn. R. 7007.0800, subp. 14; 40 CFR Section 64.8
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter: greater than or equal to <99/97> percent control efficiency.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7011.0070, subp. 1(A)
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter less than 10 microns: greater than or equal to <93/74> percent control efficiency.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7011.0070, subp. 1(A)
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter less than 2.5 microns: greater than or equal to <93/74> percent control efficiency.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7011.0070, subp. 1(A)
Pressure Drop: Maintain greater than or equal to <> inches of water column and less than or equal to <> inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval and updated in your Compliance Management Plan.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080

What to do	Why to do it
<p>Visible Emissions: The Permittee shall do the following, once every 24 hours:</p> <ol style="list-style-type: none"> 1). Inspect the fabric filter stack (SV####) for any visible emissions during daylight hours, except during inclement weather. 2). During inclement weather, read and record the pressure drop across the fabric filter. 	<p>Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; 40 CFR Section 64.3; Minn. R. 7017.0200</p>
<p>Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in Compliance Management Plan. Recorded values outside the range specified in this permit are considered Deviations as defined by Minn. R. 7007.0100, subp. 8a.</p>	<p>Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; 40 CFR Section 64.3; Minn. R. 7017.0200; Minn. R. 7011.0080</p>
<p>Periodic Inspections: At least one per calendar quarter or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.</p>	<p>40 CFR Section 64.3; Minn. R. 7017.0200</p>
<p>The Permittee shall calibrate the pressure gauge at least once every 12 months and shall maintain a written record of any action resulting from the calibration.</p>	<p>40 CFR Section 64.3; Minn. R. 7017.0200</p>
<p>Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.</p>	<p>40 CFR Section 64.7(b); Minn. R. 7017.0200</p>
<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"> - visible emissions are observed; or - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. <p>Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, 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 fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.</p>	<p>40 CFR Section 64.7(d); Minn. R. 7017.0200</p>
<p>Reporting of Corrective Actions: All situations warranting corrective actions are deviations, the Permittee shall report the deviations in the semiannual deviations report as required in the total facility section of this general permit.</p>	<p>40 CFR Section 64.9 (c); Minn. R. 7017.0200</p>
<p>Monitoring Data: The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.</p>	<p>40 CFR Section 64.9(b); Minn. R. 7017.0200</p>

The Permittee shall record this data in the Operation and Maintenance (O & M) plan within 30 days after permit issuance or 30 days after installation of any new control equipment for which there are such operating parameter requirements.

Subject Item:	CE 200	Wall/Panel Filters
Associated Item:	EU 500	Spraying/Coating Booths, Sanding, Molding, Casting, Lamination, Mixing or Cleaning

What to do	Why to do it
The Permittee shall operate and maintain the panel filter (CE 2XX) at all times that any emission unit controlled by the panel filter (EU 5XX) is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14
Operation and Maintenance of Panel Filter: The Permittee shall operate and maintain the panel filter 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. 7011.0080; Minn. R. 7007.0800, subp. 14; 40 CFR Section 64.8
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter: greater than or equal to <85/68> percent control efficiency.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7011.0070, subp. 1(A)
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter less than 10 microns: greater than or equal to <85/68> percent control efficiency.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7011.0070, subp. 1(A)
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter less than 2.5 microns: greater than or equal to <85/68> percent control efficiency.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7011.0070, subp. 1(A)
Daily Inspections: At least once per 24-hour period, the Permittee shall visually inspect the condition of the panel filter with respect to alignment, saturation, tears, holes and any other matter that may affect the filter's performance. The Permittee shall record the time and date of each inspection and any actions resulting from the inspection.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Periodic Inspections: At least one per calendar quarter or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	40 CFR Section 64.3; Minn. R. 7017.0200

What to do	Why to do it
<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if the following occur:</p> <ul style="list-style-type: none"> - the fabric filter or any of its components are found during the inspections to need repair. <p>Corrective actions include, but are not limited to, those outlined in the O & M Plan for the panel filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.</p>	<p>40 CFR Section 64.7(d); Minn. R. 7017.0200</p>
<p>Reporting of Corrective Actions: All situations warranting corrective actions are deviations, the Permittee shall report the deviations in the semiannual deviations report as required in the total facility section of this general permit.</p>	<p>40 CFR Section 64.9 (c); Minn. R. 7017.0200</p>
<p>Monitoring Data: The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.</p>	<p>40 CFR Section 64.9(b); Minn. R. 7017.0200</p>

This carat (<>) means to input a numerical number according to the design of the thermal oxidizer. The Permittee shall record this data in the Operation and Maintenance (O & M) plan within 30 days after permit issuance or 30 days after installation of any new control equipment for which there are such operating parameter requirements.

Subject Item:	CE 300	Thermal Oxidizer
Associated Item:	EU 500	Spraying/Coating Booths, Molding, Casting, Lamination, Mixing or Cleaning

What to do	Why to do it
The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by the thermal oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Operation and Maintenance of Thermal Oxidizer: The Permittee shall operate and maintain the Thermal Oxidizer according to the control equipment manufacturer's specifications, shall conduct inspections, and maintain documentation of those actions as required by Minn. R. 7011.0075, subp. 2(A) to 2(I). The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 14
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds: greater than or equal to <97/78> percent control efficiency	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Temperature: Greater than or equal to _____ degrees F as a 3-hour rolling average at the combustion chamber outlet as determined during the most recent performance test, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance 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. If the 3-hour rolling 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. This shall be reported as a deviation.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Temperature Recordkeeping: 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.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080

What to do	Why to do it
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.	40 CFR Section 64.7(b); Minn. R. 7017.0200
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 +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	Minn. R. 7007.0800, subps. 4 and 5
Daily Monitoring: The Permittee shall physical 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 daily verifications.	Minn. R. 7007.0800, subps. 4 and 5
Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system component, 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.	40 CFR Section 64.3; Minn. R. 7017.0200
Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and take action resulting from the calibration.	40 CFR Section 64.3; Minn. R. 7017.0200
Annual Inspection: At least once per calendar year, the Permittee shall conduct an internal inspection of the control device that includes all operating systems of the control device. The Permittee shall maintain a written record of the inspection and any action resulting from the inspection.	40 CFR Section 64.3; Minn. R. 7017.0200
The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b); Minn. R. 7017.0200
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.	40 CFR Section 64.7(d); Minn. R. 7017.0200
Control Efficiency Options: 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: a. The overall control efficiency limit specified in this permit for this equipment (<97>/<78>%); or b. 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.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080

What to do	Why to do it
<p>As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents.</p>	<p>40 CFR Section 64.9(a)(2); Minn. R. 7017.0200</p>

This carat (<>) means to input a numerical number according to the design of the catalytic oxidizer. The Permittee shall record this data in the Operation and Maintenance (O & M) plan within 30 days after permit issuance or 30 days after installation of any new control equipment for which there are such operating parameter requirements.

Subject Item:	CE 400	Catalytic Oxidizer
Associated Item:	EU 500	Spraying/Coating Booths, Molding, Casting, Lamination, Mixing or Cleaning

What to do	Why to do it
The Permittee shall operate and maintain the catalytic oxidizer any time that any process equipment controlled by the catalytic oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Operation and Maintenance of Catalytic Oxidizer: The Permittee shall operate and maintain the Catalytic Oxidizer according to the control equipment manufacturer's specifications, shall conduct inspections, and maintain documentation of those actions as required by Minn. R. 7011.0075, subp. 2(A) to 2(I). The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 14
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds: greater than or equal to <94/76> percent control efficiency.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Temperature: Greater than or equal to _____ degrees F as a 3-hour rolling average at the combustion chamber outlet as determined during the most recent performance test, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance 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. If the 3-hour rolling 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. This shall be reported as a deviation.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Catalyst Reactivity: The Permittee shall verify the catalyst reactivity per the manufacturer's specifications and shall maintain a record of the results.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080

What to do	Why to do it
The Permittee shall maintain either a continuous hard copy readout of the inlet and outlet temperatures and the calculated three-hour rolling average inlet temperature, or maintain a hard copy of manual readings taken at least every 15 minutes.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
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.	40 CFR Section 64.7(b); Minn. R. 7017.0200
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 +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	Minn. R. 7007.0800, subps. 4 and 5
Daily Monitoring: The Permittee shall physical 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 daily verifications.	Minn. R. 7007.0800, subps. 4 and 5
Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system component, 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.	40 CFR Section 64.3; Minn. R. 7017.0200
Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and take action resulting from the calibration.	40 CFR Section 64.3; Minn. R. 7017.0200
Annual Inspection: At least once per calendar year, the Permittee shall conduct an internal inspection of the control device that includes all operating systems of the control device. The Permittee shall maintain a written record of the inspection and any action resulting from the inspection.	40 CFR Section 64.3; Minn. R. 7017.0200
The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b); Minn. R. 7017.0200
Corrective Actions: If the temperature is below the minimum specified by this permit or if the catalytic 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 catalytic oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken.	40 CFR Section 64.7(d); Minn. R. 7017.0200

What to do	Why to do it
<p>For periods when the catalytic oxidizer is operated above the minimum inlet temperature, the Permittee shall use the appropriate one of the following when completing calculations as required elsewhere in this permit:</p> <p>a. The overall control efficiency limit specified in this permit for this equipment (<94><76>%);</p> <p>b. If the Permittee chooses to use an alternative control efficiency as allowed in Minn. R. 7011.0070, subp. 2, that new alternative control efficiency; or</p> <p>c. 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.</p>	<p>Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080</p>
<p>As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents.</p>	<p>40 CFR Section 64.9(a)(2); Minn. R. 7017.0200</p>

This carat (<>) means to input a numerical number according to the design of the thermal oxidizer. The Permittee shall record this data in the Operation and Maintenance (O & M) plan within 30 days after permit issuance or 30 days after installation of any new control equipment for which there are such operating parameter requirements.

Subject Item:	CE 400	Thermal Oxidizer
Associated Item:	EU 200	Burn-off Oven

What to do	Why to do it
The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by the thermal oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Operation and Maintenance of Thermal Oxidizer: The Permittee shall operate and maintain the Thermal Oxidizer according to the control equipment manufacturer's specifications, shall conduct inspections, and maintain documentation of those actions as required by Minn. R. 7011.0075, subp. 2(A) to 2(I). The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 14
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds: greater than or equal to <97/78> percent control efficiency	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Temperature: Greater than or equal to _____ degrees F as a 3-hour rolling average at the combustion chamber outlet as determined during the most recent performance test, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance 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. If the 3-hour rolling 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. This shall be reported as a deviation.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
Temperature Recordkeeping: 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.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080

What to do	Why to do it
Temperature Recordkeeping: 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.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080
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.	40 CFR Section 64.7(b); Minn. R. 7017.0200
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 +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	Minn. R. 7007.0800, subps. 4 and 5
Daily Monitoring: The Permittee shall physical 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 daily verifications.	Minn. R. 7007.0800, subps. 4 and 5
Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system component, 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.	40 CFR Section 64.3; Minn. R. 7017.0200
Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and take action resulting from the calibration.	40 CFR Section 64.3; Minn. R. 7017.0200
Annual Inspection: At least once per calendar year, the Permittee shall conduct an internal inspection of the control device that includes all operating systems of the control device. The Permittee shall maintain a written record of the inspection and any action resulting from the inspection.	40 CFR Section 64.3; Minn. R. 7017.0200
The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b); Minn. R. 7017.0200
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.	40 CFR Section 64.7(d); Minn. R. 7017.0200

What to do	Why to do it
<p>Control Efficiency Options: 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> <p>a. The overall control efficiency limit specified in this permit for this equipment (<97>/<78>%); or</p> <p>b. 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.</p>	<p>Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0080</p>
<p>As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents.</p>	<p>40 CFR Section 64.9(a)(2); Minn. R. 7017.0200</p>

The Permittee shall record this data in the Operation and Maintenance (O & M) plan within 30 days after permit issuance or 30 days after installation of any new control equipment for which there are such operating parameter requirements.

Subject Item:	CE 500	Flare
Associated Item:	EU 500	Molding, Casting, Lamination, Mixing or Cleaning

What to do	Why to do it
A. POLLUTANT LIMIT	hdr
Visible Emissions: The flare shall be designed for and operate with no visible emissions, except for periods not to exceed a total 5 minutes in any 2 consecutive hours, as determined by Method 22. This limit does not apply during startup, shutdown, or malfunction.	40 CFR Section 63.11(b)
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds: greater than or equal to <98/79> percent control efficiency.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 and 14; Minn. R. 7011.0070
B. OPERATIONAL REQUIREMENTS	hdr
Operation Limit: Flares must meet maximum velocity and minimum heat content requirements	40 CFR Section 63.11(b)(6)
Operation Requirement: Flares shall be steam-assisted, air-assisted, or non-assisted	40 CFR Section 63.11(b)(3)
Flare Operation: The flare shall be operated with pilot flame at all times when emissions may be vented to them.	40 CFR Section 63.11(b)(3); Minn. R. 7011.7800
C. MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
Monitoring of the Flare: The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.	40 CFR Section 63.11(b)(5); Minn. R. 7011.0075
Monitoring: The Permittee shall use Method 22 to determine the compliance of the flare with the opacity limit. The observation period is 2 hours and shall be used according to Method 22.	40 CFR Section 63.11; Minn. R. 7011.0080
The Permittee shall operate and maintain the flare 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.	40 CFR Section 63.11; Minn. R. 7007.0800, subps. 2 and 14;
Correction Actions of Visible Emissions (VE): If VE are observed, the Permittee shall take corrective action to eliminate the VE. If VE continue, the Permittee shall proceed to perform Method 22 for 2 hours. The Permittee shall keep a log of the Method 22 observations and of all corrective actions taken with records entered upon completion of each corrective action.	Minn. R. 7007.0800, subp. 2
All situations warranting corrective actions are deviations, the Permittee shall report the deviations in the semiannual deviations report as required in the total facility section of this permit.	
D. POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr

What to do	Why to do it
The Permittee shall operate the enclosed flare (CE 500) during the operation of Molding, Casting, Lamination, Mixing or Cleaning (EU 500). The Permittee shall document periods of non-operation of the control equipment.	Minn. R. 7007.0800, subp. 2 and 14
Recordkeeping Requirement: The Permittee shall record each startup, shutdown, or malfunction of the flare.	40 CFR Section 63.10(b); Minn. R. 7011.7800
E. REPORTING REQUIREMENT	hdr
Corrective Actions Reporting: All situation warranting corrective actions are deviations. The Permittee shall report the deviations in the semiannual deviations report as required in the total facility section of this permit.	Minn. R. 7007.0800, subps. 4, 5, and 14

TABLE B: SUBMITTALS

Table B lists the submittals you must send to the Commissioner. Table B is divided into two sections, for source-specific submittal requirements and for submittals required of all Permittees. Source-specific submittals are further organized as either one-time only or recurrent requirements. You may also be subject to additional reporting requirements contained in the compliance schedule located in Table C of this permit.

Return complete permit application to: Minnesota Pollution Control Agency
Air Quality Permit Technical Assistant
520 Lafayette Road North,
St. Paul, Minnesota 55155-4194.

Send all other submittals to: Minnesota Pollution Control Agency
Air Quality Compliance Tracking Coordinator,
520 Lafayette Road North,
St. Paul, Minnesota 55155-4194.

SOURCE-SPECIFIC SUBMITTALS--ONE-TIME SUBMITTALS OR NOTIFICATIONS:

What to send	When to send	Portion of facility affected
Application for Permit Reissuance	Due 180 days before expiration of existing permit	Total facility
due 30 days after start of construction or reconstruction	Notification of the Date Construction or Reconstruction Began	Emission Unit 100 Series
due 15 days after initial startup	Notification of Actual Date of Initial Startup	Emission Unit 100 Series
due 30 days after initial startup to be submitted with the notification of the actual date of initial startup. The notification shall include the design heat input capacity, identification of fuels to be combusted, and the annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.	Notification of Design Heat Input, Fuels and Anticipated Annual Capacity Factor	Emission Unit 100 Series

SOURCE-SPECIFIC SUBMITTALS-- RECURRENT SUBMITTALS:

What to send	When to send	Portion of facility affected
Compliance Schedule Progress Reports Submit progress reports relative to the Compliance Schedule contained in Table C on a form approved by the Commissioner. Progress reports will not be needed upon completion of all activities contained in the schedule.	At least semiannually (January 30, July 30); see Table C	Emission Unit 100 Series
Semiannual Deviations Reports To be submitted using Forms DFR-1 and/or DFR-2 with a summary of all instances of deviations from permit conditions. Submit the January 30 report with the annual Compliance Certification If there are no deviations during a report period, the Permittee shall submit the report stating there are no deviations.	Semiannually: due July 30, covering January 1 through June 30, and January 31, covering July 1 through December 31	Total facility
Part 70 Fiberglass General Permit Annual Compliance Certification To be submitted using Form FGCR-04.	Annually, January 31, for the previous calendar year	Total facility
Emissions Inventory Report	Annually, April 1, for the previous calendar year	Total facility
Emission Fees	Annually, Within 60 days of receipt of an MPCA invoice	Total facility
Immediate Startup, Shutdown, and Malfunction Report	Based on the report as indicated by the applicable Subparts MMMM, PPPP, WWWW and ZZZZ	Emission Unit 500 Series
Compliance Management Plan <i>Use Form FG-CMP</i>	Due 60 days after permit issuance	Total Facility
Compliance Management Plan Update <i>Use Form FG-CMP</i>	Due 7 days before making a change to the facility	Emission Unit
Part 70 General Permit Administrative Changes <i>Use Form GP-01</i>	Due within 7 days of the name change in ownership or operational control of the company.	Total Facility

TABLE C: COMPLIANCE SCHEDULE

Table C contains the compliance schedule as required by Minn. R. 7007.0500, subp. 2, Item K. You must complete the actions required in Table C by the dates listed in the table. This applies only to stationary sources out of compliance at the time of permit issuance to the source.

Subject Item:	EU100	Boiler (Subject to NSPS 40 CFR pt. 60, subp. Dc)
---------------	-------	---

Citation	Corrective action	When to complete this action
40 CFR Section 60.7 and Minn. R. 7019.0100, subp. 1	Notifications: Submit notifications of construction and initial startup for all boilers.	Within 60 days of the permit issuance.
40 CFR Section 60.43c and Minn. R. 7019.0100, subp. 1	Performance Test: Conduct a performance test on each boiler constructed, reconstructed, or modified after June 9, 1989, for which a performance test has not been completed, if applicable. The performance test must be conducted in accordance with the procedures contained in Minn. R. 7017.2001 -7017.2060.	Within 180 days of the permit issuance.
40 CFR Section 60.42 c(f)(1) and Minn. R. 7019.0100, subp. 1	Fuel Certification: Submit fuel certification including the name of the oil supplier and a statement that the oil complies with the specification under the definition of distillate oil.	Within 60 days of the permit issuance.

Subject Item:	TK100	Storage Tank (Subject to NSPS 40 CFR 60 subpart Kb)
---------------	-------	--

Citation	Corrective action	When to complete this action
40 CFR Section 60.116b(b) and Minn. R. 7011.1520 (C)	Recordkeeping - Records showing the dimension of the storage tank and an analysis showing the capacity of the storage tank.	Within 30 days of the permit issuance.

Subject Item:	EU 500	Booths
---------------	--------	--------

Citation	Corrective action	When to complete this action
To qualify for this general permit under Minn. R. 7007.1100 and 7007.0800, subp. 2	Notification: Submit notification of the date that you discontinued using painting and coating materials that contained lead.	Within 60 days of the permit issuance.
To qualify for this general permit under Minn. R. 7007.1100 and 7007.0800, subp. 2	Notification: Submit notification of the date of installation of particulate matter pollution control equipment.	Within 60 days of the permit issuance.

Subject Item:	EU 500	Molding, Casting, Lamination, Mixing, Cleaning (Subject to NESHAPS, subp. WWWW)
---------------	--------	--

Citation	Corrective action	When to complete this action
To qualify for this general permit under Minn. R. 7007.1100 and 7007.0800, subp. 2	Notification: Submit initial notification report using <i>Form 4W-01</i> .	Within 30 days of permit issuance.

Subject Item:	EU 400	Internal Combustion Engines (Subject to NESHAPS, subp. ZZZZ)
---------------	--------	---

Citation	Corrective action	When to complete this action
To qualify for this general permit under Minn. R. 7007.1100 and 7007.0800, subp. 2	Notification: Submit initial notification report using <i>Form 4Z-01</i> .	Within 30 days of permit issuance.

Subject Item:	EU 500	Painting and Coating (Subject to NESHAPS, subp. MMMM)
---------------	--------	--

Citation	Corrective action	When to complete this action
To qualify for this general permit under Minn. R. 7007.1100 and 7007.0800, subp. 2	Notification: Submit initial notification report using <i>Form 4M-01</i> .	Within 30 days of permit issuance.

Subject Item:	EU 500	Painting and Coating (Subject to NESHAPS, subp. PPPP)
---------------	--------	--

Citation	Corrective action	When to complete this action
To qualify for this general permit under Minn. R. 7007.1100 and 7007.0800, subp. 2	Notification: Submit initial notification report using <i>Form 4P-01</i> .	Within 30 days of permit issuance.

APPENDIX A: SOURCE-SPECIFIC

1. The Limitation for Combustion Sources (Indirect heating sources and Internal combustion Engines) based on a 12-month monthly rolling sum.

NO_x and CO emissions are less than 90 tons based on a 12-month rolling sum. The emissions during a given month total and a 12-month rolling sum are calculated using the following equation 1:

Equation 1:

$$\text{NO}_x \text{ (or CO)} = 0.0005 \times [(\text{EF} \times \text{Q})_{\text{ng}} + (\text{EF} \times \text{Q})_{\text{lpgb}} + (\text{EF} \times \text{Q})_{\text{lpgp}} + (\text{EF} \times \text{Q})_{\text{do/bio}}]_{\text{ihts}} \text{ pounds/month} \\ + [(\text{EF} \times \text{Q})_{\text{ng}} + (\text{EF} \times \text{Q})_{\text{do}} + (\text{EF} \times \text{Q})_{\text{g}}]_{\text{rice}} \text{ pounds/month (lb/mon)}$$

where:

EF = emission factor (see Table A.1 and A.2)

Q = actual quantity of fuel burned per month (use the units that are appropriate to the emission factor for each fuel type.)

ng = natural gas

lpgb = liquefied petroleum gas(butane)

lpgp = liquefied petroleum gas (propane)

do = distillate oil

bio = biodiesel

g = gasoline

ihts = indirect heating source

rice = reciprocating internal combustion engines

0.0005 = conversion factor, ton/lb

You must also calculate the 12-month rolling sum SO₂ and NO_x emissions for previous 12-month period by summing the monthly emissions data for the previous 12 months.

Table A.1 External Combustion Source Emission Factors

Pollutant	Natural Gas (lb/10 ⁶ scf) < 100 mmBtu/hr	LPG - Butane (lb/1000 gal) 10-100 mmBtu/hr	LPG - Butane (lb/1000 gal) < 10 mmBtu/hr	Distillate Oil (lb/1000 gal)	LPG-Propane (lb/1000 gal) 10-100 mmBut/hr	LPG - Propane (lb/1000 gal) < 10 mmBtu/hr
PM	7.6	0.8	0.8	3.3	0.7	0.7
PM ₁₀	7.6	0.2	0.2	1.3	0.2	0.2
PM _{2.5}	7.6	0.2	0.2	1.3	0.2	0.2
SO _x	0.6	0.09S	0.09S	142S	0.10S	0.10S
NO _x	100	15	15	20	13	13
VOC	5.5	1.1	1.1	1.0	1.0	1.0
CO	84	8.4	8.4	5	7.5	7.5
Pb	0.0005	-	-	0.0	-	-

Table A.2 Internal Combustion Engine Emission Factors

Pollutant	Natural Gas (lb/mmBtu) 2-stroke Lean-Burn	Natural Gas (lb/mmBtu) 4-stroke Lean-Burn	Gasoline (hp-hr)	Gasoline (lb/mmBtu)	Distillate Oil (Diesel) (lb/mmBtu)	BioDiesel (lb/mmBtu) 2 and 4 Cycle Engines
PM	9.91E-03	9.91E-03	0.10	7.21E-04	0.31	0.30
PM ₁₀	3.84E-02	7.71E-05	0.10	7.21E-04	0.31	0.30
PM _{2.5}	3.84E-02	7.71E-05	0.10	7.21E-04	0.31	0.30
SO _x	5.88E-04	5.88E-04	0.084	5.91E-04	0.29	0.29
NO _x	3.17	4.08	1.63	0.011	4.41	4.45
VOC	1.20E-01	1.18E-01	2.10	0.015	0.35	0.32
CO	3.86E-01	3.17E-01	0.99	6.96E-03	0.95	0.90
Pb	-	-	--	-	-	-

Notes:

- (1) PM = Particulate Matter
PM₁₀ = Particulate Matter less than 10 microns in aerodynamic diameter
PM_{2.5} = Particulate Matter less than 2.5 microns in aerodynamic diameter
SO₂ = Sulfur Dioxide
NO_x = Oxides of Nitrogen
VOC = Volatile Organic Compounds

CO = Carbon Monoxide
Pb = Lead
MM = Million
Btu = British thermal unit
lbs = pounds
ft³ = cubic feet
gal = gallons
hp = horsepower

- (2) Natural Gas heating value is 1,020 Btu/standard cubic foot. To convert lb/10⁶ scf to lb/mmBtu divide by 1,020
LPG- Butane heating value is 102,600 Btu/gal.
LPG- Propane heating value is 91,500 Btu/gal
Gasoline heating value is 130,000 Btu/gal.
Distillate Oil (Diesel) heating value is 140,000 Btu/gal

(3) S for Distillate Oil: Weight percent sulfur in oil. S indicates that the weight percent of sulfur in the oil should be multiplied by the value given. The maximum weight percent sulfur allowed in Minnesota is 0.5 percent.

(4) S for LPG: Sulfur content expressed on grains/100 ft³ gas vapor.

Permittee With No Operating Records Prior to Issuance of this Permit: For emission limits based on a 12-month rolling sum, the Permittee shall calculate the 12-month rolling sum on a monthly basis. For the first 12 months of operation, the Permittee shall use the following Table A.3 below:

Table A.3

Number of Months in Operation	Cumulative NO _x /CO Emission Limit During First 12 Months of Operation (ton)
1	20
2	27
3	33
4	40
5	46
6	53
7	59
8	66
9	72
10	79
11	84
12	90

2. The Limitation for PM/PM₁₀/PM_{2.5} Based on a 12-month rolling sum

Permittee with Operating Records. The PM/PM₁₀/PM_{2.5} emissions based on a 12-month rolling sum in Equation 2 of this permit, the Permittee shall calculate the 12-month rolling sum on a monthly basis. For the first 12 months of operation, the Permittee shall use its actual operating history prior to issuance of this permit.

Equation 2:

Equation 2a, for sources which qualify for 100 percent capture efficiency and collection efficiency of 85 percent and greater.

$$\text{PM/PM}_{10}/\text{PM}_{2.5} \text{ (ton/mon)} = [(P_c \times t_1 \times ((100 - \% \text{ collection})/100)) + (P_d \times t_2 \times ((100 - \% \text{ collection})/100))] \times 0.0005$$

Equation 2b, for sources with 80 percent capture efficiency and collection efficiency of 85 percent and greater.

$$\begin{aligned} \text{PM/PM}_{10}/\text{PM}_{2.5} \text{ (tons/mon)} = & [(0.8P_c \times t_1 \times ((100 - \% \text{ collection})/100)) + (0.8P_d \times t_2 \times ((100 - \% \text{ collection})/100))] \times 0.0005 \\ & + 0.2P_c \times t_1 \times 0.0005 + 0.2P_d \times t_2 \times 0.0005 \end{aligned}$$

where:

P_c = uncontrolled particulate emissions from the painting/coating, pounds/hour (lb/hr); (This can be obtained by using Actual Usage (gals/hr) x (1-transfer efficiency) x Solid content (lbs/gals))

t_1 = operating hours of the painting/coating operation during the month, hour/month (hr/mon)

P_d = uncontrolled particulate emissions from blasting, (lb/hr)

t_2 = monthly operating hours of the blasting operation, (hr/mon)

% collection = collection efficiency of the particulate control equipment.

0.0005 = conversion factor, ton/pounds (ton/lbs)

You must calculate the 12-month rolling sum PM/PM₁₀/PM_{2.5} emissions for the previous 12-month period by summing the monthly PM/PM₁₀/PM_{2.5} emissions data for the previous 12 months.

Emissions factors for PM₁₀ emissions from abrasive blasting obtained from Volume I of STAPPA-ALAPCO “Air Quality Permits” are given in Table A.4. We assumed that PM_{2.5} is equivalent to PM₁₀

Table A.4

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM ₁₀ / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	0.010

Table A.5 Application Method and Transfer Efficiency Booths

Application Method	Transfer Efficiency
Air atomization spray	0.30
Airless spray	0.45
Electrostatic/Air atomization	0.70
Electrostatic/Airless	0.75
High Volume Low Pressure	0.75
Electrode deposition	0.95
Powder	0.95

Permittee With No Operating Records Prior to Issuance of this Permit: For emission limits based on a 12-month rolling sum, the Permittee shall calculate the 12-month rolling sum on a monthly basis. For the first 12 months of operation, the Permittee shall use the following Table A.6 below:

Table A.6

Number of Months in Operation	Cumulative PM ₁₀ Emission Limit During First 12 Months of Operation (ton)
1	20
2	27
3	33
4	40
5	46
6	53
7	59
8	66
9	72
10	79
11	84
12	90

3. The Limitation for VOC Based on a 12-month rolling sum

Permittee With Operating Records. The VOC usage limitation based on a 12-month rolling sum, the Permittee shall calculate the 12-month rolling sum on a monthly basis as specified in Equation 3. For the first 12 months of operation, the Permittee shall use its actual operating history prior to issuance of this permit.

Equation 3:

$$\text{VOC} = \left[\left(\sum A_i V_i \right) + \left(\sum B_j Z_j \right) \right] \times [(100 - \% \text{control}) / 100] \times 0.0005 + C (0.0005)$$

where:

i = denotes each separate material used for painting/coating

j = denotes each separate material used for cleanup

A_i = amount of VOC containing materials used for painting/coating as purchased, lb/month

V_i = percent of VOC in A_i as applied, %wt

B_j = amount of VOC containing materials used for cleaning as purchased, lb/month

Z_j = percent of VOC in B_j as applied, %wt

%control = overall control efficiency VOC control equipment; use as indicated in your Compliance Management Plan

C_i = VOC emissions for the storage tanks, lb/month

0.0005 = conversion factor, ton/lb

You must also calculate 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.

Permittee With No Operating Records Prior to Issuance of this Permit: The emission limits based on a 12-month rolling sum, the Permittee shall calculate the 12-month rolling sum on a monthly basis. For the first 12 months of operation, the Permittee shall use the following Table C below:

TABLE A.7

Number of Months in Operation	Cumulative VOC Usage Limit During First 12 Months of Operation (ton)
1	50
2	67
3	85
4	102
5	119
6	136
7	154
8	171
9	188
10	206
11	223
12	240

3. The Limitation for VOC Based on a 12-month rolling sum using Emission Factors

Permittee With Operating Records. The VOC usage limitation based on a 12-month rolling sum, the Permittee shall calculate the 12-month rolling sum on a monthly basis as specified in Equation 4. For the first 12 months of operation, the Permittee shall use its actual operating history prior to issuance of this permit.

Equation 4:

$$\text{VOC} = [\text{MAT (1)} \times \text{EF (1)}] + [\text{MAT (2)} \times \text{EF (2)}] + [\text{MAT (3)} \times \text{EF (3)}] + \dots$$

Where:

VOC = VOC emissions, in tons per month

MAT(#) = Amount of VOC-containing material used, in tons/month

EF(#) = The total VOC emission factor for each material used in tons per ton of material used. (Use the emission factors in Appendix C)

Calculate 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.

4. The Limitation for HAP Based on a 12-month rolling average using Emission Factors

Use a calculated emission factor. Calculate a weighted average organic HAP emissions factor on a lbs/ton of resin and gel coat basis. Base the weighted average on the prior 12 months of operation. Multiply the weighted average organic HAP emissions factor by resin and gel coat use over the same period. You may calculate this organic HAP emissions factor based on the equations in Table 1 to 40 CFR pt. 63, subp. WWW, or you may use any organic HAP emissions factor approved by US EPA, such as factors from AP-42, or site-specific organic HAP emissions factors if approved by the MPCA.

INTENTIONALLY LEFT BLANK

APPENDIX B EMISSION WORKSHEETS AND EMISSION FACTORS

AQ Facility ID No.: _____ Facility Name: _____ YEARLY NO_x EMISSIONS WORKSHEET

	Month	Year	IHS Natural Gas (SCF/mo) (C1)	IHS Butane (gallons/mo) (C2)	IHS Propane (gallons/mo) (C3)	IHS Diesel/ Biodiesel Fuel (gallons/mo) (C4)	RICE Natural Gas (SCF/mo) (Q1)	RICE Diesel Fuel (gallons/mo) (Q2)	RICE Gasoline (gallons/mo) (Q3)	NOx Emissions *		Permit Limit: NOx Emissions	
										(ton/mo)	(ton/yr)	(ton)	(ton)**
											--		
											--		
											--		
											--		
											--		
											--		
											--		
											--		
											--		
											--		
1											--	90	20
2												90	27
3												90	33
4												90	40
5												90	46
6												90	53
7												90	59
8												90	66
9												90	72
10												90	79
11												90	84
12												90	90

* NO_x emissions (ton/mo) = 0.0005 [(0.00014C₁ + 0.021C₂ + 0.019C₃ + 0.025C₄) + (0.0034Q₁ + 0.469Q₂ + 0.102Q₃)]

** Permit limit for first 12 month if no operating records.

AQ Facility ID No.: _____

Facility Name: _____ **YEARLY CO EMISSIONS WORKSHEET**

	Month	Year	IHS Natural Gas (SCF/mo) (D1)	IHS Butane (gallons/mo) (D2)	IHS Propane (gallons/mo) (D3)	IHS Diesel / Biodiesel Fuel (gallons/mo) (D4)	RICE Natural Gas (SCF/mo) (F1)	RICE Diesel Fuel (gallons/mo) (F2)	RICE Gasoline (gallons/mo) (F3)	CO Emissions *		Permit Limit: CO Emissions	
										(ton/mo)	(ton/yr)	(ton)	(ton)**
											--		
											--		
											--		
											--		
											--		
											--		
											--		
											--		
											--		
1											--	90	20
2												90	27
3												90	33
4												90	40
5												90	46
6												90	53
7												90	59
8												90	66
9												90	72
10												90	79
11												90	84
12												90	90

* CO emissions (ton/mo) = 0.0005 [(0.000035D₁ + 0.0036D₂ + 0.0032D₃ + 0.005D₄) + (0.00043F₁ + 0.102F₂ + 3.94F₃)]

** Permit limit for first 12 month if no operating records.

AQ Facility ID No.:_____

Facility Name:_____

YEARLY PM/PM₁₀/PM_{2.5} EMISSIONS WORKSHEET

	Month	Year	Total Monthly emissions from painting/coating (ton/month)	Total Monthly emissions from blasting (ton/month)	Emissions from MISC. Sources (ton/month)	Total Monthly Emissions * (ton/month)	Permit Limit: PM Emissions (current month plus the previous 11 months). This number has to be less than or equal to 90 tons (tons)	(tons)**
1								20
2								27
3								33
4								40
5								46
6								53
7								59
8								66
9								72
10								79
11								84
12								90

* PM/PM₁₀/PM_{2.5} Emissions (ton/mo) = Add the emissions from painting/coating, blasting and the miscellaneous sources (see equation 2)

** Permit Limit for the first 12 month, if no operating records

Emission Factors for Open Molding of Composites
Emission Rate in Pounds of Styrene Emittted per Ton of Resin or Gelcoat Processed

<u>Application Process</u>	Styrene content in resin/gelcoat, %⁽¹⁾																			
	<33 ⁽²⁾	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	>50 ⁽²⁾
Manual	0.126 x %styrene x 2000	83	89	94	100	106	112	117	123	129	134	140	146	152	157	163	169	174	180	((0.286 x %styrene) - 0.0529) x 2000
Manual w/ Vapor Suppressed Resin VSR⁽³⁾	Manual emission factor [listed above] x (1 - (0.50 x specific VSR reduction factor for each resin/suppressant formulation))																			
Mechanical Atomized	0.169 x %styrene x 2000	111	126	140	154	168	183	197	211	225	240	254	268	283	297	311	325	340	354	((0.714 x %styrene) - 0.18) x 2000
Mechanical Atomized with VSR⁽³⁾	Mechanical Atomized emission factor [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
<u>Mechanical Non-Atomized</u>	0.107 x %styrene x 2000	71	74	77	80	83	86	89	93	96	99	102	105	108	111	115	118	121	124	((0.157 x %styrene) - 0.0165) x 2000
Mechanical Non-Atomized with VSR⁽³⁾	Mechanical Non-Atomized emission factor [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
<u>Filament application</u>	0.184 x %styrene x 2000	122	127	133	138	144	149	155	160	166	171	177	182	188	193	199	204	210	215	((0.2746 x %styrene) - 0.0298) x 2000
Filament application with VSR⁽⁴⁾	0.120 x %styrene x 2000	79	83	86	90	93	97	100	104	108	111	115	118	122	125	129	133	136	140	0.65 x ((0.2746 x %styrene) - 0.0298) x 2000
Gelcoat Application	0.445 x %styrene x 2000	294	315	336	356	377	298	418	439	460	481	501	522	543	564	584	605	626	646	((1.03646 x %styrene) - 0.195) x 2000
Covered-Cure after Roll-Out	Non-VSR process emission factor [listed above] x (0.80 for Manual <or> 0.85 for Mechanical)																			
Covered-Cure without Roll-Out	Non-VSR process emission factor [listed above] x (0.50 for Manual <or> 0.55 for Mechanical)																			

Emission Rate in Pounds of Methyl Methacrylate Emitted per Ton of Gelcoat Processed

<u>Application Process</u>	MMA content in gelcoat, %⁽⁵⁾																			
	1	2	3	4	5	6	7	8	9	0	11	12	13	14	15	16	17	18	19	≥20
Gel coat application⁽⁶⁾	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	0.75 x %MMA x 2000

Notes

1. Including styrene monomer content as supplied, plus any extra styrene monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.
- 2. Formulas for materials with styrene content < 33% are based on the emission rate at 33% (constant emission factor expressed as percent of available styrene), and for styrene content > 50% on the emission rate based on the extrapolated factor equations; these are not based on test data but are believed to be conservative estimates. The value for "% styrene" in the formulas should be input as a fraction. For example, use the input value 0.30 for a resin with 30% styrene content by weight.**
3. The VSR reduction factor is determined by testing each resin/suppressant formulation according to the procedures detailed in the *CFA Vapor Suppressant Effectiveness Test*.
4. The effect of vapor suppressants on emissions from filament winding operations is based on the *Dow Filament Winding Emissions Study*.
5. Including MMA monomer content as supplied, plus any extra MMA monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.
6. Based on gelcoat data from *NMMA Emission Study*.

This table is based on the CFA *Unified Emissions Factors* document, dated April 7, 1999.

These factors shall be used or EPA-approved factor supersedes emission factors used herein.

MONTHLY VOC USAGE WORKSHEET

AQ Facility ID No.: _____

Facility Name: _____

Record For: _____ (month/year)

Date Prepared: _____ (day/month/year)

Coating/Solvent	VOC Content (lb/gallons)	Usage Total (gallons)	Monthly VOC Usage (lbs/month)		
				Total Monthly VOC Usage (ton/month)	12-month rolling sum VOC Usage (tons)

AQ Facility ID No.:_____

Facility Name:_____

YEARLY VOC EMISSIONS WORKSHEET

	Month	Year	Total Monthly VOC Emissions from painting/coating or gelcoats/resins (ton/month)	Total Monthly VOC Emissions from cleaning (ton/month)	VOC Emissions from Storage Tanks (ton/month)	Total Monthly VOC Emissions * (ton/month)	Permit Limit: VOC Emissions (current month plus the previous 11 months). This number has to be less than or equal to 240 tons (tons) (tons)**
1							50.0
2							68
3							85
4							102
5							119
6							136
7							154
8							171
9							188
10							206
11							223
12							240

* VOC Emissions (ton/mo) = Add the emissions from painting/coating, gelcoats/resins, cleaning ,storage tanks and miscellaneous sources. (see equation 3 or 4)

** Permit Limit for the first 12 month, if no operating records

TECHNICAL SUPPORT DOCUMENT
FOR
THE GENERAL PART 70 AIR EMISSION GENERAL PERMIT
FOR GENERAL FIBERGLASS SOURCES
OCTOBER 2009

TABLE OF CONTENTS

	<u>Section-Page</u>
1.0 INTRODUCTION	1-1
2.0 PERMITTING APPROACH	2-1
2.1 General Permits versus Individual Permits	2-1
2.2 MPCA Overall Permit Approach for General Fiberglass Stationary Sources With or Without Pollution Control Equipment.....	2-2
3.0 QUALIFICATION REQUIREMENTS	3-1
3.1 Qualifications Pertaining to Stationary Source Type, Processes, Materials, Emissions Units and Emission Control.....	3-1
3.1.1 Stationary Source Description	3-1
3.1.2 Process Operations and Emission Units.....	3-2
3.1.3 Materials Processed.....	3-2
3.1.4 Emission Control.....	3-2
3.2 Qualifications Pertaining to Minn. R. 7007.0500 and 7007.0800	3-3
3.2.1 Restriction on Potential To Emit.....	3-3
3.2.2 Compliance With Applicable Requirements.....	3-4
3.2.3 Operating Flexibility	3-4
3.3 Specific Requirements to be Met Based on "Applicable Requirements".....	3-5
3.3.1 National Emission Standards for Hazardous Air Pollutants	3-5
3.3.2 New Source Review	3-6
3.3.3 Ambient Air Quality Standards.....	3-6
3.3.4 State and Federal Standards of Performance.....	3-7
3.3.5 Acid Rain Program.....	3-10
3.3.6 Stratospheric Ozone Protection.....	3-10
3.3.7 Compliance Assurance Monitoring (CAM).....	3-10
3.3.8 Periodic Monitoring.....	3-11
3.3.9 Solid Waste Combustion.....	3-11
3.3.10 Federal Ozone Measures for the Control of Emissions From Certain Sources	3-11
3.3.11 Tank Vessel Standards	3-12
3.3.12 Environmental Review.....	3-13
3.3.13 Other Applicable Minnesota Requirements	3-13
4.0 CONTENT OF GENERAL PERMIT	4-1
5.0 CONTENTS OF APPLICATION	5-1
6.0 POTENTIAL TO EMIT	6-1
6.1 Overview	6-1
6.2 Fuel Combustion	6-2
6.2.1 Estimating Potential to Emit	6-3
6.2.2 Limiting Potential Emissions by Means of Restricted Fuel Consumption.....	6-6
6.3 Limiting Particulates Emissions.....	6-8
6.4 Limiting VOC Emissions.....	6-9
6.5 Limiting HAP Emissions	6-9
6.6 Fugitive Emissions	6-9

1.0 INTRODUCTION

It is a goal of the Minnesota Pollution Control Agency (MPCA) to efficiently implement its air emission permitting program and to continuously improve the permitting process. One objective to meeting this goal is the development of general permits for specific industrial categories. This document presents the MPCA's overall approach for the efficient permitting of general fiberglass stationary sources.

This document presents the technical support information for the development of a general permit for these sources. This general permit is a Part 70 permit for general fiberglass sources with or without pollution control equipment with potential to emit (PTE) limited to less than 250 tons per year of total volatile organic compounds (VOCs), less than 100 tons per year for all other criteria pollutants and less than 100 tons per year for hazardous air pollutants (HAPs). The criteria pollutants are particulate matter (PM), particulate matter less than 2.5 microns (PM_{2.5}), particulate matter less than 10 microns (PM₁₀), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), lead (Pb), and ozone (VOC - volatile organic compounds). The stationary sources may not be one of the source categories listed in 40 CFR § 52.21(b)(1)(iii), the prevention of significant deterioration (PSD) of air quality rule.

In order to support the general permit and application, the technical support information needs to meet the following general objectives:

- The information must describe how the sources eligible for this general permit are similar. The information should also describe the similar regulatory requirements for these sources (Minn. R. 7007.1100, subp. 1).
- The information must identify which permit application requirements of Minn. R. 7007.0100 - 7007.1850 do not apply to stationary sources qualifying for the general permit in order to support development of a simplified application (Minn R. 7007.1100, subp. 5), and
- For Part 70 permits, the information must set forth the legal and factual basis of the permit conditions, including reference to the applicable statutory or regulatory provisions (Minn. R. 7007.0850, subp. 1).

The remainder of this technical support document includes a summary of the permitting approach in Section 2, a discussion of the qualifications and requirements for this general permit in Section 3, a summary of the general permit contents in Section 4, a summary of the general permit application contents in Section 5, and a discussion of the procedures for limiting PTE in Section 6.

The legal and factual basis for the permit conditions are described in this document and in the permit. The permit contains the general conditions listed in Minn. R. 7007.0800, subp. 16.

2.0 PERMITTING APPROACH

This section discusses the general concepts for individual versus general permits. It presents the overall permitting approaches being considered by the MPCA general fiberglass sources with or without pollution control equipment.

2.1 General Permits versus Individual Permits

Minn. R. ch. 7007 requires air emission sources to obtain permits from the MPCA. These Rules also provide the overall specifications for the MPCA's air emission permits program. These specifications require the submittal of complete permit applications to the MPCA by the owner or operator of the emission source. The MPCA reviews the applications and, when the applications are determined complete, prepares a draft permit for public notice. Public notice requirements provide for a 30-day public comment period and in some cases review by neighboring states or provinces. Following the 30-day public comment period, the permit is not issued until after the U.S. Environmental Protection Agency (EPA) is provided an additional 45 day review period to review the operating portions of the permit. After the 45 day EPA review the permit may be issued, but the public has 60 days to petition EPA for an objection. If EPA agrees with the petition, then the permit may need to be reopened and revised.

Typically, permitting involves preparing a draft permit for each individual source based on source specific considerations. The complete permitting process described above is then carried through for each individual permit. This approach is generally time consuming for all parties involved.

As an alternative, Minn. R. 7007.1100 provides for the issuance of a "general permit" which covers numerous sources which are similar to each other and subject to the same or substantially similar regulatory requirements. This approach provides for greater efficiency than the individual permit approach. The process of issuing a general permit includes:

- development of a simplified application based on requirements which would potentially be applicable to the types of sources for which the permit would be issued,
- development of a single permit for the source group which provides for compliance with applicable requirements by standard approaches identified in the permit,
- a one-time public notice and EPA review prior to issuance of the final general permit,
- issuance of the general permit to any qualifying individual source without repeating the public notice for each source, and
- availability of a list from the MPCA upon request which identifies the stationary sources for which a general permit application has been received.

The primary benefit of a general permit is the efficiency provided to the MPCA and to qualifying stationary sources through a simplified permitting process. At the same time, the opportunity for public participation is preserved in the public notice of the general permit. The MPCA will also make available to the public a list of sources from whom applications have been received.

General permits also provide for equitable treatment of sources through the receipt of uniform permit applications and uniform permits. However, when requesting the general permit, the stationary source is accepting the terms and conditions of the general permit and must comply with them. When submitting the general permit application, the stationary source may not request special conditions for operation of its stationary source. If special conditions are necessary for an individual source, it must apply for an individual permit.

2.2 MPCA Overall Permitting Approach For General Fiberglass Sources With or Without Pollution Control Equipment

The overall permitting approach for general fiberglass sources with or without pollution control equipment includes the issuance of individual and general permits. This general permit is for new and existing fiberglassing stationary sources with or without pollution control equipment with PTE limited to less than 250 tpy of VOC, less than 100 tpy for each other criteria pollutant and less than 100 tpy of HAP after accounting for the effects of all pollution control equipment from all processes with pollution control equipment for all appropriate pollutants.

This general permit category is allowed by the MPCA based on Minn. R. 7007.1100, subp. 1, which requires that the same or substantially similar requirements apply to the category of sources. This permit may be issued to stationary sources throughout the State of Minnesota.

This general permit for general fiberglass stationary sources with or without pollution control equipment limits the PTE VOCs to less than 250 tpy and limit criteria pollutants and HAP to less than 100 tpy. This general permit will be issued for stationary sources that can meet the emission limits established in this general permit when accounting for the effects of all pollution control equipment from all processes with pollution control equipment for all appropriate criteria pollutants. The permit allows operating flexibility by authorizing the installation, replacement and removal of equipment without significant regulatory burden to the permit holder, so long as the permit holder remains in compliance with the general permit.

PSD requirements would apply to stationary sources with the PTE of 250 tpy or more of any criteria pollutant. Because this general permit will apply only to stationary sources willing to limit PTE to less than 250 tpy of each criteria pollutant, PSD requirements will not apply to stationary sources eligible for this general permit. The PSD requirements involve extensive evaluations and permitting of individual modifications and will be handled through individual permits.

For stationary sources with the PTE 100 tpy or more of any criteria pollutant, 40 CFR Part 70 requirements apply. Because this general permit allows stationary sources to emit more than 100 tpy of VOCs and HAPs, these stationary sources are required to obtain a Part 70 permit. This general permit will contain all necessary requirements of a Part 70 permit.

3.0 QUALIFICATION REQUIREMENTS

To meet requirements of Minn. R. 7007.1100, subps. 1 and 5, the following four general criteria must be met for this general permit:

- first, the permit must be for a group of emission sources or stationary sources of like kind or substantially similar in nature,
- second, the same or substantially similar requirements of Minn. R. 7007.0500 CONTENT OF PERMIT APPLICATION and Minn. R. 7007.0800 PERMIT CONTENT need to apply to the emission sources or stationary sources covered by the permit,
- third, the same or substantially similar applicable requirements of Minn. R. 7007.0100, subp. 7, apply to the emission sources or stationary sources, and
- fourth, the approaches for meeting the requirements of the second criteria and methods for meeting the applicable requirements identified by the third criteria need to be applied consistently.

Development of the general permit and simplified application also requires that a number of assumptions be made to identify applicable requirements and establish how compliance with the applicable requirements will be achieved. These assumptions become qualification requirements for the general permit and need to be compatible with the design and operation practices at a number of general fiberglass stationary sources with or without pollution control equipment for the permit to be useful.

A number of qualifications were required to be established for the development of this general permit. These qualifications are presented as numerical steps in the Qualifications Review List supplied with the application package for this general permit. The basis for the qualifications is presented in the remainder of this section.

3.1 Qualifications Pertaining to Stationary Source Type, Processes, Materials, Emissions Units and Emission Control

3.1.1 Stationary Source Description

This general permit applies to general fiberglass stationary sources with or without pollution control equipment. **The stationary source may not be one of the 28 source categories listed in 40 CFR § 52.21(b)(1)(iii), prevention of significant deterioration of air quality.**

3.1.2 Process Operations and Emission Units

Process operations and emission units typically present at stationary sources covered by this general permit include: spray guns, spray and coating booths, molding, casting, lamination, mixing cleaning of surfaces, sanding, abrasive blasting, resin and gel coat, acid cleaning surfaces, fuel storage, boilers, catalytic and thermal oxidizers, baghouses, fabric filters, wall filters, flares, generators (internal combustion engines), burnoff ovens, furnaces, space heaters, dip tanks, ovens, soldering, welding, brazing, screen printing, stenciling, and storage tanks. **If a stationary source has process operations or emission units not listed above and the sources are not insignificant activities (listed in Minn. R. 7007.1300; and/or conditionally insignificant activities listed in Minn. R. 7008), the stationary source does not qualify for the general permit.** The insignificant activities listed in Minn. R. 7007.1300, subp. 3, are required to be listed in a permit application and calculation of emissions from these activities shall be provided upon request in the application for this general permit. Stationary sources with emission units subject to any New Source Performance Standards other than for small industrial-commercial-institutional steam generating units, volatile organic liquid storage vessels for which construction, reconstruction, or modification commenced after July 23, 1984, for compression ignition internal combustion engines, and for new standard for spark ignition internal combustion engines (40 CFR pt. 60, subps. Dc, subp. Kb, subp. IIII and subp. JJJJ) **do not qualify this general permit.** Any stationary source with an emission unit(s) subject to a National Emission Standards for Hazardous Air Pollutants (NESHAP)

other than for surface coating of miscellaneous metal parts and products (subpart MMMM), for surface coating of plastic parts (subpart PPPP), for reinforced plastic composites production (subpart WWWW), and for reciprocating internal combustion engines (subpart ZZZZ), if applicable, **do not qualify for this general permit**. A stationary source that is subject to a case-by-case maximum achievable control technology standards (MACT) determination under section 112(g) of the Clean Air Act **does not qualify for this general permit**.

3.1.3 Materials Processed

Stationary sources that use painting or coating materials that contain lead after 60 days of permit issuance **do not qualify for this general permit**.

3.1.4 Emission Control

This permit requires particulate emission control for all spray painting and spray coating operations by installing some type of particulate control device with a minimum collection efficiency of 85 percent. The control device must be listed under Minn. R. 7011.0070 and the general permit requires the Permittee to comply with the operating condition requirements of Minn. R. 7011.0060 - 7011.0080.

This general permit requires fugitive particulate emission control by the application of water on exposed surfaces.

The stationary source is allowed to consider the effects of all VOC pollution control equipment when calculating emissions. The general permit emphasizes the necessity of capture efficiency and destruction efficiency determination for surface coating operations. The Permittee must comply with the control equipment rule operating condition requirements of Minn. R. 7011.0060 - 7011.0080.

3.2 Qualifications Pertaining to Minn. R. 7007.0500 and 7007.0800

3.2.1 Restriction on Potential to Emit

As described in Section 2.2, this general permit is for stationary sources with PTE limited to less than 250 tpy of VOCs and limited to less than 100 tpy for all other criteria pollutants and HAPs. The basis for this restriction is so that stationary sources are able to make design and operational changes without being subject to PSD requirements. However, Part 70 permit and permit application requirements need to be fulfilled in this general permit.

Fugitive emissions by definition are not collected and are released to the atmosphere at the point of generation. Fugitive emissions at general fiberglass stationary sources with or without pollution control equipment may be generated by unpaved roads, blasting outdoors and other related miscellaneous activities outdoors. VOC emissions from these stationary sources are not considered fugitive emissions.

The approach developed to restrict the PTE for the operations at stationary sources covered by this general permit are presented in Section 6.0. This approach involves the following concepts:

- the PTE limits are based on emissions not including fugitive emissions;
- restricting the type and annual amount of fuel consumed limits the PTE of all criteria pollutants; and
- potential emissions of PM/PM_{2.5}/PM₁₀ are restricted to less than 100 tpy by requiring the company to use particulate controls on painting/coating operations that generate particulate emissions.

A cap on the PTE for NO_x and CO emissions and restrictions on fuel use and type (natural gas, distillate oil, biodiesel, liquefied petroleum gas and gasoline) based on a 12-month rolling sum are included in the permit to limit the NO_x and CO PTE from all fuel combustion sources. Based on the emissions factors and calculations by limiting the NO_x and CO emissions, the permit will also limit SO₂ emissions. Monitoring and recordkeeping provisions to track compliance with these permit conditions are also included.

A cap on the PTE for PM/PM_{2.5}/PM₁₀ from these sources would require the stationary source owner or operator to use at least 85 percent efficient particulate control devices to control PM₁₀ emissions. Monitoring and recordkeeping provisions to track compliance with these permit conditions are also included.

A cap on the PTE for VOCs from these sources would be based on a 12-month rolling sum usage limit. Monitoring and recordkeeping provisions to track compliance with these permit conditions are also included.

A cap on the PTE for HAPs from these sources would be based on a 12-month rolling sum usage limit. Monitoring and recordkeeping provisions to track compliance with these permit conditions are also included.

3.2.2 Compliance With Applicable Requirements

Minn. R. 7007.0500, subp. 2, requires that permit applications include a compliance plan, including a schedule of compliance when applicable requirements are not met. This general permit specifies the compliance plan. To qualify for this general permit, stationary sources must be in compliance with all applicable requirements. The exception is that if the only reason the stationary source is not in compliance is because it does not have a permit and the issuance of a general permit will bring it into compliance. Stationary sources subject to NSPS that have not conducted the performance testing and reporting requirements required by 40 CFR pt. 60, subps. Kb and Dc, may be able to receive a general permit if they can commit to the compliance schedule in the general permit for completing the testing. In addition, stationary sources subject to NESHAP that have not submitted their initial notification requirement required by 40 CFR pt. 63, subps. MMMM, PPPP, WWWW and ZZZZ, may be able to receive a general permit if the owner or operator can commit to the compliance schedule in the permit for submitting the notification. The applicable requirements to be considered are identified in the permit.

3.2.3 Operating Flexibility

This general permit includes a number of conditions that allow sources to have operating flexibility. These conditions must be met by the stationary source to qualify for this general permit. The conditions include:

- allowing only certain types of processing equipment and fuel combustion equipment at the stationary source;
- requiring all equipment to be labeled with a serial number or other identification number;
- requiring records to be maintained on site to identify the actual operating configuration of the stationary source;
- requiring records of calculations for the operating configuration of the stationary source showing that the actual emissions do not exceed 240 tpy for VOCs, 100 tpy of HAPs, and 90 tpy for all other criteria pollutants except lead. Based on the information from this industry, these sources do not expect to emit any lead emissions;
- requiring all NSPS requirements to be met for new equipment, if applicable, except that daily fuel monitoring will not be required because diesel fuel is not available in Minnesota with a sulfur content above 0.5 percent sulfur.
- requiring NSPS testing notification for new equipment that have not had NSPS testing or certification for new equipment that have had NSPS testing and passed,
- requiring all NESHAPS requirements to be met for new and existing equipment,
- requiring the operation of particulate control equipment for all surface coating operations generating particulate emissions.

Once a company has a general permit, the Permittee may make modifications at the site as long as all permit conditions and limitations are met. If the stationary source will no longer be able to meet the general permit conditions and limitations after a proposed modification, the Permittee must apply for and receive an individual permit prior to the modification taking place.

3.3 Specific Requirements to be Met Based on "Applicable Requirements"

3.3.1 National Emission Standards for HAPs

National Emission Standards for Hazardous Air Pollutants (NESHAPs) for sources categories for major sources apply to stationary sources having the PTE of more than 10 tpy of any single HAP or 25 tpy of combined HAPs as provided in 40 CFR pt. 63. If stationary sources trigger these thresholds, they may be subject to these requirements.

The EPA has identified a list of emission stationary sources known to emit HAPs that will be subject to maximum achievable control technology standards (MACT) in 40 CFR pt. 63. The identified source categories that would affect this general permit are reinforced plastic composites facilities and reciprocating internal combustion engines. These NESHAPS' requirements were incorporated in this general permit.

On December 27, 1996, Section 112(g) rule was finalized. If a major HAP source undergoes a modification AND a modification of a process production unit (as defined in the 112(g) rule, 40 CFR Section 63.40 through Section 63.44 or 112(j), 40 CFR Section 63.53) by itself and has a potential to emit of 10 or 25 tons per year, the stationary source must apply for a construction or reconstruction permit including a case-by-case MACT determination. In this case this general permit cannot be used; instead, the stationary source would have to apply for an individual Part 70 permit.

Other NESHAPS requirements are provided in 40 CFR pt. 61 and in Minn. R. 7011.9900 through 7011.9990. Stationary sources with processes and equipment subject to these requirements will not be eligible for this general permit. Therefore, these standards are not contained in this general permit.

The prevention of accidental releases program requirements are provided in 40 CFR pt. 68 and Section 112(r) of the Clean Air Act. The EPA promulgated the list of regulated substances and threshold quantities in the Federal Register on January 31, 1994, and the proposed risk management plan regulation on October 20, 1993. General fiberglass stationary sources with or without pollution control equipment may produce, process, handle, store, or use the listed substances in the quantities listed; therefore, these requirements may apply and if these rules do apply, the stationary source must register and submit a risk management plan according to the rules after promulgation of the final rule.

3.3.2 New Source Review (NSR)

NSR requirements are in two programs: the nonattainment area review program (NAAR) and the PSD program. In this general permit, stationary sources in nonattainment areas will be restricted to under 100 tpy for all criteria pollutants except ozone. The 100 tpy restriction for ozone (VOC) does not apply because there are no ozone nonattainment areas in Minnesota. Therefore, the NAAR requirements do not apply because there are currently no nonattainment areas in Minnesota.

NSR requirements of the PSD program apply to any stationary sources which have the PTE more than 250 tpy of any regulated pollutant as provided in 40 CFR pts. 51 and 52. The stationary sources eligible for this general permit can not be one of the 28 sources listed that triggers the 100 tpy threshold for PSD. Restrictions will be placed in the general permit as federally enforceable limitations on VOC to keep the stationary sources eligible for this general permit below 250 tpy and the PTE for all other criteria pollutants will also be limited to less than 100 tpy; therefore, the stationary sources eligible for this general permit can not be a major stationary source subject to PSD requirements.

Stationary sources constructed after August 7, 1980, that have the PTE more than 250 tpy may be subject to PSD review. If potential emissions and actual emissions of any pollutant have exceeded 250 tpy for a stationary source constructed after August 7, 1980, then the stationary source is not eligible for this general permit. The stationary source may also need to perform a PSD review as part of its individual Part 70 application to address the modification previously made.

If actual emissions of VOC have not exceeded 250 tpy from the stationary source constructed after August 7, 1980, and the stationary source is willing to accept the federally enforceable limits in this general permit to remain below a PTE of 250 tpy, then the stationary source is eligible for this general permit, unless the source is required to achieve BACT-equivalent emission reductions.

3.3.3 Ambient Air Quality Standards

National Ambient Air Quality Standards (NAAQS) and increment and visibility requirements are provided in the Clean Air Act, Section 109 and 160-169 (B). Minnesota Ambient Air Quality Standards are provided in Minn. R. 7009.0010 - 7009.0080. Minnesota standards do not allow anyone to emit any pollutants in such a manner that ambient levels of the pollutant are higher than the maximum allowed level. The permit considers these requirements by not allowing the permit shield to cover these standards.

3.3.4 State and Federal Standards of Performance

State and federal New Source Performance Standards (NSPS) requirements apply to certain new and existing sources as provided in 40 CFR pt. 60 and Minn. R. 7011.0010 - 7011.3450. Standards that apply to general fiberglass stationary sources with or without pollution control equipment are listed in Table 3.1:

Table 3.1

Standards of Performance	40 CFR pt. 60	Minn. R.
Emission Standards for Visible Air Contaminants		7011.0100 - 7011.0120
Control of Fugitive Particulate Matter		7011.0150
Indirect Heating Fossil Fuel- Burning Equipment		7011.0500 - 7011.0550
Small Industrial-Commercial-Institutional Steam Generating Units	subp. Dc	7011.0570
Direct Heating Fossil Fuel-Burning Equipment		7011.0600 - 7011.0620
Industrial Process Equipment		7011.0700 - 7011.0735
Liquid Petroleum and Volatile Organic Liquid (VOL) Storage Vessels	subp. Kb	7011.1520
Stationary Internal Combustion Engines		7011.2300
Air Pollution Control Equipment		7011.0060 - 7011.0800
Compression Ignition Internal Combustion Engines	subp. IIII	7011.3520
Spark Ignition Internal Combustion Engines	subp. JJJJ	

The permit incorporates the provisions of these standards. The standards are summarized below:

Emission Standards for Visible Air Contaminants - The requirements set forth in Minn. R.

7011.0100 - 7011.0120 include an opacity limit that allows no greater than 20 percent, except that a maximum opacity of 40 percent may occur for four minutes in any 60-minute period for existing stationary sources before 1969, and for stationary sources constructed after 1969, an opacity limit that allows opacity at no greater than 20 percent. If performance tests are required, Method 9 for visual determination of opacity must be used.

Control of Fugitive Particulate Matter - The requirements set forth in Minn. R. 7011.0150 include minimizing airborne particulate emissions such that avoidable amounts of PM are not emitted from handling, use, transport, or storage of any material and that all reasonable control is applied.

Indirect Heating Fossil Fuel-Burning Equipment - The requirements set forth in Minn. R.

7011.0500 - 7011.0550 include PM and sulfur dioxide emission limits based on location, rated heat input of all direct and indirect heating equipment at the stationary source, and the type of fuel used for new and existing equipment.

These requirements for indirect heating fossil fuel-burning equipment also include an opacity limit that allows opacity no greater than 20 percent, except for one six-minute period per hour of not more than 60 percent opacity or 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 for existing Stationary Sources. For Stationary Sources with new equipment of greater than 250 million Btu/hr rated heat input, an opacity limit that allows opacity no greater than 20 percent, except for one six-minute period per hour of not more than 27 percent opacity or 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 27 percent. For Stationary sources with existing equipment of 250 million Btu/hr or less rated heat input, an opacity limit that allows opacity no greater than 20 percent, except 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.

Small Industrial-Commercial-Institutional Steam Generating Units - The requirements set forth in Minn. R. 7011.0570 and 40 CFR pt. 60, subp. Dc, apply to steam generating units constructed after June 9, 1989, with a maximum design heat input capacity of 100 million Btu/hr or less but greater than 10 million Btu/hr. The requirements include performance testing, a minimum reduction efficiency, an emission limit based on heat input and emission monitoring for both sulfur dioxide and PM and reporting and recordkeeping requirements. The subpart was revised for units that commenced construction, reconstruction, or modification after February 28, 2005.

Direct Heating Fossil Fuel-Burning Equipment - The requirements set forth in Minn. R.

7011.0600 - 7011.0620 include particulate emissions limitations such that the gases discharged to the atmosphere may not contain PM in excess of the limits allowed by the Industrial Process Equipment Standard of Performance (Minn. R. 7011.0700 - 7011.0735) or allows opacity no greater than 20 percent, except that a maximum opacity of 60 percent may occur for four minutes in any 60-minute period and that a maximum opacity of 40 percent may occur for four additional minutes in any 60-minute period.

These state requirements for direct heating fossil fuel-burning equipment also include a sulfur dioxide emission limit for stationary sources within the Minneapolis-St. Paul Air Quality Control Region, such that the gases discharged to the atmosphere do not contain sulfur dioxide in excess of three pounds per million Btu heat input if a solid fossil fuel is burned, or 1.6 pounds per million Btu heat input if a liquid fuel is burned if the total rated heat input of all indirect and direct heating equipment of the owner or operator at that particular location exceeds 250 million Btu/hr. The emission limit is four pounds per million Btu heat input if a solid fossil fuel is burned, or two pounds per million Btu heat input and if a liquid fuel is burned if the total rated heat input of all indirect and direct heating equipment of the owner or operator at that particulate location is equal to or less than 250 million Btu/hr.

Industrial Processing Equipment - The requirements set forth in Minn. R. 7011.0700 - 7011.0735 include separate standards for both industrial equipment put in operation before

July 9, 1969, (pre-1969 requirements) and industrial equipment put in operation after 1969 (post-1969 requirements).

The standard for PM, which is the same for equipment manufactured before and after 1969, is a pound per hour (lb/hr)

limit based on the process weight rate. After reviewing the potential emission calculations (Section 6 of this document), operations at stationary sources covered by this general permit are not expected to exceed these standards.

The post-1969 standard includes an opacity limit of 20 percent. The pre-1969 standard includes an opacity limit of 20 percent, but allows a maximum opacity of 60 percent for four minutes in a 60-minute period and a maximum opacity of 40 percent for four additional minutes in a 60-minute period. If performance tests are required, Method 9 for visual determination of opacity should be used.

Liquid Petroleum and VOL Organic Liquid Storage Vessels - The requirements set forth in Minn. R. 7011.1520 and 40 CFR pt. 60, subp. Kb, apply to VOL organic liquid storage vessels constructed after July 23, 1984, with a capacity less than 151 cubic meters storing a liquid with a maximum true vapor pressure less than 15.0 kilopascal. The requirements include tank design specifications, inspections, measurements, reporting and record keeping, and monitoring of operations.

Stationary Internal Combustion Engines - The requirements in Minn. R. 7011.2300 include an opacity limit such that engines are allowed a maximum opacity of 20 percent for up to ten consecutive seconds once operating temperatures are reached. If the engine is located within the Minneapolis-St. Paul Area Quality Control Region or if the total rated heat input is greater than 250 million Btu/hr, the standard also includes a limit of 1.75 pounds SO₂ emissions per million Btu/hr. The actual heat input and rated heat input of the internal combustion engine should be determined using Minn. R. 7011.0500 - 7011.0550.

Air Pollution Control Equipment - The requirements set forth in Minn. R. 7011.0600 - 7011.0080 include the listed control equipment and the control equipment efficiencies, the control equipment general requirements, monitoring and record keeping for the listed control equipment. Compliance with these requirements is necessary to qualify for this general permit, so these rules apply to stationary sources that are issued this general permit under Minn. R. 7011.0065, subp. 1(A).

Compression Ignition Internal Combustion Engines - The requirements set forth in 40 CFR pt. 60, subp. IIII apply to engines at facilities such as power plants, chemical and manufacturing plants to generate electricity to power pumps and compressors. The requirements limit emissions of NO_x, PM, SO₂, CO and hydrocarbons (HC) from these stationary diesel internal combustion engines.

Spark Ignition Internal Combustion Engines - The requirements set forth in 40 CFR pt. 60, subp. JJJJ apply to manufacturers, owners, and operator of stationary spark ignition (SI) internal combustion engines. The standard limits the emissions of NO_x, CO and non-methane hydrocarbons (NMHC). In addition, a sulfur limit on gasoline is being proposed. Compliance with these requirements is necessary to qualify for this general permit.

3.3.5 Acid Rain Program

Acid rain program requirements are provided in the 1990 CAAA, Sections 401-416. These requirements are for power utilities with a generating capacity of more than 25 megawatts and are not applicable to stationary sources covered by this general permit. Therefore, these requirements are not included in the permit application or permit.

3.3.6 Stratospheric Ozone Protection

Stratospheric ozone protection requirements are for phasing out ozone-depleting chemicals as provided in the 1990 CAAA, Sections 601-618. These requirements are for manufacturing, selling, distributing, or using ozone depleting halogenated chemicals. These requirements may apply to stationary sources eligible for this general permit and stationary sources who are subject to these requirements must comply with these rules.

3.3.7 Compliance Assurance Monitoring (CAM)

The CAM rule (40 CFR pt. 64) applies to facilities that operate emission control devices subject to federally enforceable regulations promulgated prior to 1990. This enhanced monitoring may apply to stationary sources eligible

for this general permit as required under 40 CFR pt. 64. The implement of CAM is required for some stationary sources because of the issuance of the Part 70 general permit.

CAM plans were established for this general permit. The general permit includes the provisions that require the Permittee to comply with CAM requirements. If the Permittee objects to any of the CAM plans in the permit application, the Permittee must obtain an individual Part 70 permit.

3.3.8 Periodic Monitoring

Section 70.6(a)(3) of the Title V regulations specified the standard monitoring and related recordkeeping and reporting requirements that each Title V permit must contain. One important element of the monitoring, recordkeeping, and reporting requirement of Title V is that each permit must contain periodic monitoring sufficient to yield reliable data from relevant time period that is representative of the facility's compliance with the permit. This provision is commonly referred to as a gap-filling provision.

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

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

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

The MPCA staff considered all the relevant factors and incorporated all requirements into the general permit.

3.3.9 Solid Waste Combustion

Solid waste combustion requirements are provided in the 1990 CAAA, Section 129. These requirements are for municipal solid waste incinerators and incinerators of hospital, medical and infectious waste and are not applicable to cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary sources with or without pollution control equipment. Therefore, these requirements are not included in the permit application or permit.

3.3.10 Federal Ozone Measures for the Control of Emissions From Certain Sources

Federal ozone measures for the control of emissions from certain sources requirements are provided in the 1990 CAAA, Section 183(e). As of January 2008, rules have not been promulgated under this section of the CAA. These requirements are for manufacturing, processing, distributing, or importing consumer or commercial products that emit VOCs and are not applicable to general fiberglass stationary sources with or without pollution control equipment. Therefore, these requirements are not included in the permit application or permit.

3.3.11 Tank Vessel Standards

Tank vessel standards requirements are provided in the 1990 CAAA, Section 183(f). As of January 2008, rules have not been promulgated under this section of the CAA. These requirements are for stationary sources loading or

unloading floating tank vessels and are not applicable to general fiberglass stationary sources with or without pollution control equipment. Therefore, these requirements are not included in the permit application or permit.

3.3.12 Environmental Review and Air Emission Risk Analysis

On October 30, 2006, the Minnesota Environmental Review Rules (Chp. 4410) were revised to include the new provisions for air pollution of a stationary source facility that constructs or increase increases by 250 tons or more per year of any single air pollutant after pollution control. An environmental review is required for a new source and a modification with potential emissions greater than or equal to 250 tpy of any single criteria pollutant. Since the recent changes to the Environmental Assessment Worksheet threshold from 100 tpy to 250 tpy for individual criteria pollutants won't eliminate the need for an Air Emission Risk Analysis (AERA). The Permittee should still plan to complete an AERA if their stationary source is the subject of significant public interest, or the identification of a new stationary source or existing stationary source expansion indicate a need for further analysis prior to issuance. If a company does an AERA and it results in a need for source specific permit conditions, then the stationary source is not eligible for this general permit.

3.3.13 Other Applicable Minnesota Requirements

In addition to the Minnesota requirements described above, the Minnesota rules listed in Table 3.2 apply to stationary sources qualifying for this permit.

Table 3.2

TITLE OF THE RULE	MINNESOTA RULES (Chapter or Part)	WHAT THE CONTENT OF THE RULE IS:
Air Quality Emission Fees	ch. 7002	Requires stationary sources to pay emission fees every year within 60 days of MPCA billing.
Air Pollution Episodes	7009.1000 - 7009.1110	Requires stationary sources to comply with episode control directives issued by the commissioner.
Performance Tests	7017.2000 - 7017.2060	Outlines requirements for emissions performance testing.
Emission Inventory	7019.3000 et seq.	Requires stationary sources to submit an emission inventory report by April 1st every year.
Circumvention	7011.0020	No one may conceal or dilute emissions which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.
Notifications	7019.1000	Requires stationary sources to notify MPCA of shutdowns and breakdowns.
Monitoring Equipment	7007.0800, subp. 4(D)	Requires the Permittee to install or make needed repairs to monitoring equipment.
Monitoring Equipment Calibration	7007.0800, subp. 16(J)	Requires the Permittee to calibrate annually all monitoring equipment other than continuous emission monitors.
Operation and Maintenance Plan	7007.0800, subp. 16(J)	Requires the Permittee to retain at the stationary source an operation and maintenance plan for all air pollution control equipment.
Reporting of Deviations Endangering Human Health and the Environment	7007.0800, subp. 6(A)	Requires the Permittee to report any deviation from the permit conditions which could endanger human health or the environment.
Inspections	7007.0800, subp. 9	Allow the MPCA, or an authorized representative or agent of the MPCA, to enter the Permittee's premises, to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any stationary sources, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.
Minnesota and National Ambient Air Quality Standard	7009.0010 - 7009.0080	No one is allowed to emit any of the listed pollutants in such a manner that ambient levels of the pollutant are higher than the maximum level.
Noise Pollution Control	7030.0010 - 7030.0080	Sets noise standards in decibels which cannot be exceeded.

4.0 CONTENT OF GENERAL PERMIT

A permit template has been developed for this general permit and was based on the MPCA individual permit template. The difference between the MPCA individual permit template and the general permit template is that parts that are not applicable were removed as explained in Section 3.

5.0 CONTENTS OF APPLICATION

A simplified permit application has been developed based on the information in Section 3. Table 5.1 is a summary of items removed in the general permit application. The basis for elimination was described in Section 3.

Table 5.1

FORMS REMOVED		COMMENTS
(GI) GENERAL INFORMATION FORMS		
GI-05B	Emission Unit Information Form	Simplified to include specific emission units.
GI-05A	Pollution Control Equipment Form	Simplified to include specific control equipment.
GI-05C	Tanks Information Form	Simplified to include the required information.
GI-05D	Fugitive Emission Source Description	Simplified to include the required information.
GI-09	Requirements Form	Simplified to include the required information.
(CD) COMPLIANCE DATA FORMS		
CD-01	Compliance Plan	Required information placed in permit.
CD-03	Compliance Schedule	Required information placed in permit.
(EC) EMISSION CALCULATIONS FORMS		Removed the forms that do not apply.
(ME) MONITORING EQUIPMENT FORMS		Not covered by general permit.
(CH) CHANGE/MODIFICATION FORMS		Not covered by general permit.
(MI) BUILDING AND STRUCTURE INFORMATION FORM		Not covered by general permit.

6.0 PTE

6.1 Overview

Criteria pollutants emitted from processes at general fiberglass stationary sources with or without pollution control equipment are summarized in Table 6.1.

Table 6.1

Sources	PM/PM _{2.5} / PM ₁₀	SO ₂	NO _x	VOC	CO	Pb	HAP
Spray and Coating booths	X			X			X
Molding, Casting, Lamination	X			X			X
Cleaning	X			X			X
Storage Tanks	X			X			X
Abrasive Blasting	X						
Welding	X						X
Soldering	X						X
Mixing	X						X
Resin and Gel Coaters	X			X			X
Sanding	X						X
Engine Testing	X	X	X	X	X		X
Fuel Combustion (Natural Gas, Distillate Oil, LPG, Biodiesel, Gasoline)	X	X	X	X	X	Neg.	X

Without restrictions, PTE of VOC may exceed 250 tpy and PTE of other criteria pollutants may exceed 100 tpy. To keep VOC emissions below 250 tpy and other criteria pollutant emissions levels below 100 tpy, the stationary source must have a permit with federally enforceable limits.

Because fuel combustion is the only source of SO₂, NO_x and CO, limiting emission levels of SO₂, NO_x and CO to a potential of less than 100 tpy is accomplished by applying fuel type and usage limitations. Limiting emission levels of VOC to a potential of less than 250 tpy is accomplished by limiting usage of VOC containing materials and requiring recordkeeping of the amount of VOC materials used. Limiting emission levels of PM/PM_{2.5}/PM₁₀ to a potential of less than 100 tpy is accomplished by requiring the use of spray booths with PM control equipment. With these requirements and limitations, the total PM/PM_{2.5}/PM₁₀ emissions from casting, lamination, mixing, cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, molding and fossil fuel combustion stationary sources with or without pollution control equipment will not exceed 100 tpy. The emission limitations are described below.

6.2 Fuel Combustion

Some stationary sources covered by this general permit will have fossil fuel combustion processes. This general permit allows these stationary sources to use a variety of fuels including natural gas, distillate oil (diesel) and liquefied petroleum gas (LPG) for indirect heating sources, and natural gas, distillate oil (diesel), biodiesel and gasoline for internal combustion engines. These processes may have potential emissions greater than 100 tpy for SO₂, NO_x and CO. Therefore, the general permit will include enforceable restrictions on fuel type and usage to maintain emissions below 100 tpy for each of these criteria pollutants.

Based on the expected annual fuel usage of stationary sources likely to use this general permit, the actual quantities of pollutants expected to be emitted to the atmosphere under the limitations of this permit can be estimated to be less than

the 100 tpy emission thresholds. While actual emissions cannot be equated to PTE for a stationary source without an operating history, the fact that actual emissions are expected to be much less than the estimated PTE indicates that these stationary sources could be permitted more efficiently using imposed restrictions on the type and amount of fuel combusted and the amount of emissions on a monthly basis. These imposed restrictions would then be placed in the general permit as federally enforceable limitations on PTE. The restrictions would be established such that the stationary source would not be subject to NSR requirements.

Emissions from combustion sources are determined directly by the type and quantity of fuel consumed. Thus, the permit allows for fuel usage (and hence pollutants emitted) to be determined by use of a fuel flow meter(s) or by use of purchase and inventory records. The general permit also makes a provision to allow the combustion of any combination of natural gas, distillate oil (diesel) and LPG for indirect heating sources and natural gas, distillate oil (diesel), biodiesel and gasoline for external combustion engines. Procedures to estimate and limit PTE from fuel combustion are described below.

6.2.1 Estimating PTE

Emission factors from Compilation of "Air Pollutant Emission Factors" (AP-42) Fifth Edition, Emission Factor Listing for Criteria Air Pollutants" are shown in Table 6.2 and Table 6.3.

Table 6.2 External Combustion Source Emission Factors

Pollutant	Natural Gas (lb/10 ⁶ scf) < 100 mmBtu/hr	LPG - Butane (lb/1000 gal) 10-100 mmBtu/hr	LPG - Butane (lb/1000 gal) < 10 mmBtu/hr	Distillate Oil (lb/1000 gal)	LPG-Propane (lb/1000 gal) 10-100 mmBut/hr	LPG - Propane (lb/1000 gal) < 10 mmBtu/hr
PM	7.6	0.8	0.8	3.3	0.7	0.7
PM ₁₀	7.6	0.2	0.2	1.3	0.2	0.2
PM _{2.5}	7.6	0.2	0.2	1.3	0.2	0.2
SO _x	0.6	0.09S	0.09S	142S	0.10S	0.10S
NO _x	100	15	15	20	13	13
VOC	5.5	1.1	1.1	1.0	1.0	1.0
CO	84	8.4	8.4	5	7.5	7.5
Pb	0.0005	-	-	0.0	-	-

Table 6.3 Internal Combustion Engines

Pollutant	Natural Gas (lb/mmBtu) 2-stroke Lean- Burn	Natural Gas (lb/mmBtu) 4-stroke Lean-Burn	Gasoline (hp-hr)	Gasoline (lb/mmBtu)	Distillate Oil (Diesel) (lb/mmBtu)	BioDiesel (lb/mmBtu) 2 and 4 Cycle engines
PM	9.91E-03	9.91E-03	0.10	7.21E-04	0.31	0.31
PM ₁₀	3.84E-02	7.71E-05	0.10	7.21E-04	0.31	0.31
PM _{2.5}	3.84E-02	7.71E-05	0.10	7.21E-04	0.31	0.31
SO _x	5.88E-04	5.88E-04	0.084	5.91E-04	0.29	0.29
NO _x	3.17	4.08	1.63	0.011	4.41	4.41
VOC	1.20E-01	1.18E-01	2.10	0.015	0.35	0.35

Pollutant	Natural Gas (lb/mmBtu) 2-stroke Lean- Burn	Natural Gas (lb/mmBtu) 4-stroke Lean-Burn	Gasoline (hp-hr)	Gasoline (lb/mmBtu)	Distillate Oil (Diesel) (lb/mmBtu)	BioDiesel (lb/mmBtu) 2 and 4 Cycle engines
CO	3.86E-01	3.17E-01	0.99	6.96E-03	0.95	0.9
Pb	-	-	--	-	-	-

Notes:

- (1) PM = Particulate Matter
 PM₁₀ = Particulate Matter less than 10 microns in aerodynamic diameter
 PM_{2.5} = Particulate Matter less than 2.5 microns in aerodynamic diameter
 SO₂ = Sulfur Dioxide
 NO_x = Oxides of Nitrogen
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide
 Pb = Lead
 MM = Million
 Btu = British thermal unit
 lbs = pounds
 ft³ = cubic feet
 gal = gallons
 hp = horsepower
- (2) Natural Gas heating value is 1,020 Btu/standard cubic foot. To convert 1b/10⁶ scf to lb/mmBtu divide by 1,020
 LPG- Butane heating value is 102,600 Btu/gal.
 LPG- Propane heating value is 91,500 Btu/gal
 Gasoline heating value is 130,000 Btu/gal.
 Distillate Oil (Diesel) heating value is 140,000 Btu/gal
- (3) S for Distillate Oil: Weight percent sulfur in oil. S indicates that the weight percent of sulfur in the oil should be multiplied by the value given. The maximum weight percent sulfur allowed in Minnesota is 0.5 percent.
- (4) S for LPG: Sulfur content expressed on grains/100 ft³ gas vapor.
- (5) Biodiesel Emission Factors were taken from EPA document "Voluntary Diesel Retrofit Program", www.epa.gov/otaq/retrofit/techlist-biodiesel.htm.

To allow for the combustion of natural gas, LPG and distillate oil (diesel) in indirect heating sources and for the combustion of natural gas, distillate oil and gasoline in internal combustion engines under this general permit, the limiting pollutant for each fuel type must be determined. For each fuel there is a maximum emission factor that defines the amount of that fuel that could be combusted and still emit less than emission thresholds of the corresponding pollutant. From these emission factors, it can be seen that for indirect heating sources, NO_x is the limiting pollutant for natural gas, LPG and distillate oil. For reciprocating internal combustion engines NO_x is the limiting pollutant for natural gas, biodiesel and distillate oil and CO is the limiting pollutant for gasoline.

6.2.2 Limiting Potential Emissions by Means of Restricted Fuel Consumption

Stationary sources with indirect heating sources and internal combustion engines may choose to install a fuel flow measuring device on such units or use purchasing records in order to be regulated by means of a blanket fuel consumption limit under the general permit. For each fuel, there exists a maximum amount that could be combusted to emit less than the emission threshold of each criteria pollutant. This fuel limit would be made a federally enforceable permit condition for those stationary sources desiring to combust a single fuel type. However, for stationary sources choosing to use a combination of allowable fuels, a reduced amount of each individual fuel must be determined, in order to provide an overall emission rate of less than the emission threshold of less than 100 tpy for each criteria pollutant.

Fuel usage will be restricted by demonstrating that NO_x and CO emissions are less than 90 tpy on a 12-month rolling sum using the following equations:

$$\text{NO}_x \text{ (or CO)} \leq 90 \text{ tons/year}$$

$$\text{NO}_x \text{ (or CO)} = [(\text{EF} \times \text{Q})_{\text{ng}} + (\text{EF} \times \text{Q})_{\text{lpgb}} + (\text{EF} \times \text{Q})_{\text{lpgp}} + (\text{EF} \times \text{Q})_{\text{do/bio}}]_{\text{iht}} \text{ ton/yr} \\ + [(\text{EF} \times \text{Q})_{\text{ng}} + (\text{EF} \times \text{Q})_{\text{do}} + (\text{EF} \times \text{Q})_{\text{g}}]_{\text{rice}} \text{ ton/year}$$

where:

EF = emission factor

Q = actual quantity of fuel burned per year (use the units that is appropriate to the emission factor for each fuel type.)

ng = natural gas

lpgb = liquefied petroleum gas (butane)

lpgp = liquefied petroleum gas (propane)

do = distillate oil

bio = biodiesel

g = gasoline

iht = indirect heating sources

rice = reciprocating internal combustion engines

Table 6.4 presents the maximum annual emissions for each individual fuel for indirect heating sources:

Table 6.4

	Indirect Heating Sources Potential to Emit (tons per year)			
Pollutant	Natural Gas	LPG - Butane	LPG - Propane	Distillate Oil
PM	6.8	2.6	2.5	8.8
PM ₁₀	6.8	1.3	1.3	4.2
PM _{2.5}	6.8	1.3	1.3	4.2
SO _x	0.5	5.8	0	1.9
NO _x	90	90	90	90
VOC	4.9	2.6	3.2	0.5
CO	75.3	15.4	12.2	13.3
Pb	---	---	---	---

Table 6.5 presents the maximum annual emissions for each individual fuel for internal combustion engines:

Table 6.5

Internal Combustion Engines PTE (tpy)				
Pollutant	Natural Gas	Biodiesel	Distillate Oil	Gasoline
PM	0.3	6.1	6.3	0.2
PM ₁₀	0.3	6.1	6.3	0.2
PM _{2.5}	0.3	6.1	6.3	0.0
SO _x	0.2	10.1	10.2	0.1
NO _x	90	90	90	2.3
VOC	2.2	7.3	7.3	4.3
CO	11.3	18.2	19.4	90
Pb	---	--	---	---

6.3 Limiting Particulate Emissions

Limiting emission levels of PM/PM_{2.5}/PM₁₀ to a potential of less than 100 tpy is accomplished by requiring limitations on operations such that the total PM/PM_{2.5}/PM₁₀ emissions from fuel combustion sources plus PM/PM_{2.5}/PM₁₀ emissions from all other processes including but limited to painting/coating, lamination, casting, mixing, resin and gel coating applications, cutting, grinding, abrasive blasting, welding, brazing, and soldering processes do not exceed 90 tpy. Particulate emissions from combustion will not exceed 9.0 tpy, and emissions from all other processes will not exceed 90 tpy through federally enforceable permit conditions. Particulate emissions from welding, brazing, grinding, cutting and soldering are considered insignificant activities under Minn. R. 7007.1300, subp. 3. and Minn. R. 7008. Particulate emissions from insignificant activities under Minn. R. 7007.1300, subp. 4, must be counted towards potential to emit. The Permittee would keep records of PM/PM_{2.5}/PM₁₀ emissions to account for the actual emissions. The recordkeeping provisions and methods of calculation would be addressed in the application and permit package.

Guidelines on how to calculate PM/PM_{2.5}/PM₁₀ emissions from painting/coating operations are provided in the permit application package.

Emissions factors for PM/PM₁₀ emissions from abrasive blasting obtained from Volume I of STAPPA-ALAPCO " Air Quality Permits" are given in Table 6.6. We will assumed that PM_{2.5} is equal to PM₁₀

Table 6.6

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM ₁₀ / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	0.010

Table 6.7 Application Method and Transfer Efficiency Booths

Application Method	Transfer Efficiency
Air atomization spray	0.30
Airless spray	0.45
Electrostatic/Air atomization	0.70
Electrostatic/Airless	0.75
High Volume Low Pressure	0.75
Electrode deposition	0.95
Powder	0.95

To demonstrate that PM/PM_{2.5}/PM₁₀ emissions are less than 100 tpy based on a 12-month rolling sum (PM/PM_{2.5}/PM₁₀ < or = 90 tpy).

$$\text{PM PTE} \leq [(P_c \times t_1 \times ((100 - \% \text{control})/100)) + P_d \times t_2 \times ((100 - \% \text{control})/100)] \times 0.0005 + 9.0$$

where:

P_c	=	particulate emissions from the painting/coating, gelcoats and resin applications, lamination, casting, sanding, lbs/month
t_1	=	annual operating hours of the painting/coating operation, gelcoats and resin applications, lamination, casting, sanding, month/yr
% control	=	control efficiency of the particulate control equipment
P_d	=	particulate emissions from abrasive blasting, lbs/month
t_2	=	annual operating hours of the abrasive blasting operation, month/yr
0.0005	=	conversion factor, ton/lb
9.0	=	particulate emissions from fuel combustion sources, ton/yr

6.4 Limiting VOC Emissions

Limiting emissions levels of VOC to a potential of less than 250 tpy is accomplished by required limitations on operations such that the total VOC emissions from the fuel combustion sources and emissions from all other sources including storage tanks, painting/coating, and cleaning do not exceed 249 tpy. The VOC emissions from combustion will not exceed 9.0 tpy (see section 6.2.2, Table 6.4 and 6.5) and the VOC emissions from all other sources will not exceed 241.0 tpy through federally enforceable permit conditions.

The Permittee will be required to limit the usage of VOC containing materials, including paints, coating, additives, and solvents such that the VOC emissions for the entire stationary source other than combustion sources will not exceed 240 tons based on a 12-month rolling sum. This would be the federally enforceable condition in the permit. To demonstrate that the VOC emissions are less than 240 tons based on the 12-month rolling sum, the Permittee will maintain records at the stationary source of all materials used that contains any VOCs. The Permittee will use Materials Safety Data Sheet (MSDS) or any other alternative method approved by the Administrator in recordkeeping so that the VOC usage limit can be calculated. The Permittee may use pollution control equipment to control VOC emissions and consider the effect of the pollution control equipment in the emission calculations. The permit application and permit will address the types and efficiencies of pollution control equipment are allowed.

To demonstrate that VOC emissions are less than 240 tpy based on a 12-month rolling sum (VOC < or = 240 tpy). The owner or operator can use the following two equations to calculate VOC emissions below.

$$\text{VOC PTE} \leq [(\sum A_i V_i) + (\sum B_j Z_j)] \times [(100 - \% \text{control})/100] \times 0.0006 + C_1 (0.0005) + 9.0 \quad (\text{Equation 1})$$

where:

i	=	denotes each separate material used for painting/coating
j	=	denotes each separate material used for cleanup
A_i	=	amount of VOC containing materials used for painting/coating as purchased, lb/month
V_i	=	percent of VOC in A_i as purchased, % wt
B_j	=	amount of VOC containing materials used for cleaning as purchased, lb/month
Z_j	=	percent of VOC in B_j as purchased, % wt
% control	=	control efficiency of the VOC control equipment
C_1	=	VOC emission from the storage tanks, lb/yr
9.0	=	VOC emissions from fuel combustion sources, ton/yr
0.0005	=	conversion factor, ton/lb
0.006	=	conversion factor, ton/lb(months/yr)

$$\text{VOC PTE} \leq \left[\text{MAT}(1) \times \text{EF}(1) + \text{MAT}(2) \times \text{EF}(2) + \text{MAT}(3) \times \dots \times \left[(100 - \% \text{control}) / 100 \right] \right] \times 0.006 + C_1 (0.0005) + 9.0$$

(Equation 2)

where:

VOC = VOC emissions, in tons per yr

MAT (#) = Amount of VOC-containing material used, in tons/month

EF(#) = The total VOC emission factor for each material used in lbs per ton of material used (See emission factors below)

% control = control efficiency of the VOC control equipment

C₁ = VOC emission from the storage tanks, lb/yr

9.0 = VOC emissions from fuel combustion sources, ton/yr

0.0005 = conversion factor, ton/lb

0.006 = conversion factor, ton/lbs(months/yr)

6.5 Limiting HAP Emissions

Limiting emissions levels of HAP to a potential of less than 100 tpy based on a 12-month rolling average using emission factors from 40 CFR pt. 63, subp. WWW. The Permittee can use any organic HAP emission factors most recently approved by US EPA, such as factors from AP-42 or site-specific organic HAP emission factors if they are approved by the MPCA.

6.6 Fugitive Emissions

Stationary sources covered by this general permit will not be required to submit fugitive emission calculations because they are not one of the 28 source categories listed that triggers the 100 tpy threshold for PSD. Fugitive emission sources must be identified in the application; however, to comply with Part 70 requirements.

Emission Factors for Open Molding of Composites
Emission Rate in Pounds of Styrene Emitted per Ton of Resin or Gelcoat Processed

[illegible]

Emission Rate in Pounds of Methyl Methacrylate Emittted per Ton of Gelcoat Processed

<u>Application Process</u>	MMA content in gelcoat, % ⁽⁵⁾																			
	1	2	3	4	5	6	7	8	9	0	11	12	13	14	15	16	17	18	19	≥20
Gel coat application⁽⁶⁾	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	0.75 x %MMA x 2000

Notes

1. Including styrene monomer content as supplied, plus any extra styrene monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.
2. Formulas for materials with styrene content < 33% are based on the emission rate at 33% (constant emission factor expressed as percent of available styrene), and for styrene content > 50% on the emission rate based on the extrapolated factor equations; these are not based on test data but are believed to be conservative estimates. The value for "% styrene" in the formulas should be input as a fraction. For example, use the input value 0.30 for a resin with 30% styrene content by weight.
3. The VSR reduction factor is determined by testing each resin/suppressant formulation according to the procedures detailed in the *CFA Vapor Suppressant Effectiveness Test*.
4. The effect of vapor suppressants on emissions from filament winding operations is based on the *Dow Filament Winding Emissions Study*.
5. Including MMA monomer content as supplied, plus any extra MMA monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.
6. Based on gelcoat data from *NMMA Emission Study*.

This table is based on the *CFA Unified Emissions Factors* document, dated April 7, 1999.

These factors shall be used or EPA-approved factor supersedes emission factors used herein.