

**AIR EMISSION GENERAL PERMIT NO. < >
ISSUED TO**

<FACILITY NAME>

<FACILITY ADDRESS>

<FACILITY CITY, STATE ZIP>

This permit 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 § 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.

Permit Type: Federal, Part 70/Limits to avoid NSR

Issue Date:

Expiration: May 29, 2006

All Title I Conditions do not expire.

Manager
Majors and Remediation Division

for _____
Commissioner
Minnesota Pollution Control Agency

AO:lao

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NOTICE TO THE PERMITTEE:

In addition to being subject to the Minnesota Pollution Control Agency (MPCA) air quality program your stationary source may be subject to the requirements of the 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.

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 Limitations
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What to do	Why to do it
<p>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 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.</p>	To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7007.0800, subp. 2
<p>Equipment List Inventory: The Permittee shall maintain a written list of each piece of equipment on site. The list shall include: the type of equipment, serial number (or assigned number if not available) and dates of installation, modification and reconstruction, all applicable Standard of Performance for New Stationary Sources for subpart Dc Kb, and JJ records and all National Emission Standard for Hazardous Air Pollutants(NESHAP) halogenated solvent cleaners, internal combustion engines, industrial boilers, institutional/commercial boilers, process heaters, engine test facilities, paint stripper uses and miscellaneous metal parts and products for surface coating requirements, if applicable. The list shall be updated to include any new, modified or changed equipment just before making a change. Notation of these two evaluations shall be done before making every modification or change:</p> <p>In the notification:</p> <ol style="list-style-type: none"> 1. Re-evaluate whether you still qualify for this general permit 2. Re-evaluate whether you still are able to keep the 12-month rolling sum of your actuals below 90 tons for Particulate Matter less than 10 um in size (PM₁₀), 99 tons for Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Sulfur Dioxide(SO₂) Lead (Pb), and 241 tons for Volatile Organic Compounds (VOC). <p>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. See form provided by the Commissioner in Appendix J.</p>	To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7007.0800, subp. 2
<p>Compliance Management Plan: The Permittee shall submit to the MPCA the compliance management plan with 60 days of the issuance of this 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. See form provided by the Commissioner in Appendix M.</p>	To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7007.0800, subp. 2
<p>Name change in ownership or operational control: The Permittee shall submit to the MPCA the Air Emission General Permit Administrative Changes Form (GP-01) within 7 days of name change in ownership or operational control the company. See form provided by the Commissioner in Appendix N.</p>	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
Environmental Assessment Worksheet (EAW): The Permittee shall not begin actual construction of any single project or projects that are connected or phased actions which will cause a total increase in actual emissions of greater than 99 tons of VOC per year without first completing an EAW. “Connected actions” and “phased action” have the meanings given in Minn. R. 4410.0200, subps. 9b and 60.	Minn. Stat. § 116D.04, subd. 2b and Minn. R. 4410.4300, subp. 15
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, degreasers, cleaning of surfaces, abrasive blasting, acid cleaning surfaces, fuel storage, boilers, catalytic or thermal afterburner, fabric filters, wall filters, bag houses, internal combustion engine (generators), burnoff ovens, furnaces, ovens, water wash paint booths, dip tanks, soldering, welding, brazing, space heaters, storage tanks, engine testing, screen printing, injection molding, stenciling and/or any of the insignificant activities listed in Minn. R. 7007.1300.	To qualify for this general permit under Minn. R. 7007.1100, and Minn. R. 7007.0800, subp. 2
Prevention of Significant Deterioration: The stationary source shall not be one of the Prevention of Significant Deterioration (PSD) source categories listed in Minn. R. 7007.0200, subp 2(B)(1)-(26)	To remain a non-major source under 40 CFR § 52.21 and Minn. R. 7007.3000
Carbon Monoxide: The Permittee shall not emit a 12-month rolling sum of more than 99 tons of CO. See form provided by the Commissioner in Appendix I.	To qualify for this general permit under Minn. R. 7007.1100 and to remain a non-major source under 40 CFR § 52.24.
Nitrogen Oxides and Lead: The Permittee shall not emit a 12-month rolling sum of more than 99 tons each of NO _x and Pb. See form provided by the Commissioner in Appendix I.	To qualify for this general permit under Minn. R. 7007.1100, and Minn. R. 7007.0800, subp. 2
Sulfur Dioxide: The Permittee shall not emit a 12-month rolling sum of more than 99 tons of SO ₂ .	To qualify for this general permit under Minn. R. 7007.1100 and to remain a non-major source under 40 CFR § 52.24.

What to do	Why to do it
Particulate Matter less than Ten Micron: The Permittee shall not emit a 12-month rolling sum of more than 90 tons of PM ₁₀ . (The PM ₁₀ emissions from the combustion sources were taken into account when determining the PM ₁₀ limit). See form provided by Commissioner in Appendix I.	To qualify for this general permit under Minn. R. 7007.1100, and to remain a non-major source under 40 CFR § 52.24.
Volatile Organic Compounds: The Permittee shall not emit a 12-month rolling sum of more than 241 tons of VOCs. (The VOCs emissions from the combustion sources were taken into account when determining the VOC limit.) See form provided by Commissioner in Appendix I.	To qualify for this general permit under Minn. R. 7007.1100 and to remain a non-major source under 40 CFR § 52.21 and Minn. R. 7007.3000
New Source Performance Standards: If applicable, boilers, storage tanks or cold cleaning machine operations at the stationary source shall comply with the NSPS.	40 CFR pt. 60, subp. Dc, Kb or Jj, Minn. R. 7011.0570, Minn. R. 7011.1520(C) and Minn. R. 7007.0800, subp. 2
<p>National Emission Standards for Hazardous Air Pollutants: If applicable, the stationary source shall comply with the NESHAP standard for halogenated solvent cleaners, internal combustion engines, industrial boilers, institutional/commercial boilers, process heaters, miscellaneous metals part and products for surface coating, engine test facilities, paint stripper users.</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>	40 CFR pt. 63 and Minn. R. 7007.0800, subp. 2
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.	To qualify for this general permit under Minn. R. 7007.1100, and Minn. R. 7007.0800, subp. 2
Fuel Usage: The Permittee shall only use distillate oil, natural gas, LPG and gasoline fuels in combustion sources.	To qualify for this general permit under Minn. R. 7007.1100, and Minn. R. 7007.0800, subp. 2
Air Pollution Control Equipment: The Permittee shall comply with the control equipment rule for all fabric filters, wall filters, bag houses, catalytic and thermal afterburners at the stationary source.	Minn. R. 7011.0060-0080 and Minn. R. 7007.0800, subp. 2

What to do	Why to do it
Fugitive Dust Control: The Permittee shall use water on exposed surfaces i.e. unpaved roads to control fugitive particulate emissions.	To qualify for this general permit under Minn. R. 7007.1100, and Minn. R. 7007.0800, subp. 2
<p>Capture Efficiency Requirement for Particulate Matter Control Equipment: For spraying/coating and blasting cleaning operations which are totally enclosed, the Permittee shall claim a capture efficiency of 100% of uncontrolled particulate matter emissions. Total enclosure means the spraying/blast cleaning 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 other spray coating and blast cleaning operations shall use a capture efficiency of 80%.</p>	To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7011.0060-0080
<p>Collection Efficiency Requirement for Particulate Matter Control Equipment: The Permittee shall use particulate matter control equipment with all spraying/coating or blasting operations with a collection efficiency greater than or equal to 92%.</p>	To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7011.0060-0080
<p>Hood Certification and Record keeping: 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 rules requirements listed in Minn. R. 7011.0080, subp. 1, and certifies this as required in Minn. R. 7011.0070, subp. 3. The Permittee shall maintain a copy of this on site, as well as the annual record of the fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method, if applicable.</p>	To qualify for this general permit under Minn. R. 7007.1100 and Minn. R. 7011.0060-0080
<p>Equipment Inventory List: Submit the updated list by December 31, every year. See form provided by the Commissioner in Appendix J.</p>	To qualify for this general permit under Minn. R. 7007.1100
<p>Emission Inventory: Submit an emission inventory report by April 1st every year</p>	Minn. R. 7019.3000 - 7019.3010
<p>Forms approved by the Commissioner(Deviations Reporting Forms, Annual Compliance Certification, Emissions Worksheets, Equipment Inventory List Form, Initial Notification Report, Compliance Report and Annual Report)</p>	See Appendices H, I, J, K and L

Subject Item:	Total Facility
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What to do	Why to do it
Record keeping: 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)
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
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
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. 7007.0800, subp. 6 (A)
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. 7007.0800, subp. 6 (A)

What to do	Why to do it
<p>Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.</p>	
<p>Semiannual Deviations Reports: A mid-year report, covering deviations which occurred during the period from January 1 through June 30, is due by July 30 of each year. An end-of-year report, covering deviations which occurred during the period from July 1 through December 31, is due by January 30 of each year. The report must be submitted even if there were no deviations for the reporting period. See form approved by the Commissioner, in Appendix H.</p>	<p>Minn. R. 7007.0800, subp. 6 (A)</p>
<p>Shutdown Notification: Notify the Commissioner at least 24 hours in advance of shutdown of any control equipment or process equipment if the shutdown would cause an increase in the emission of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B, and C of Minn. R. 7019.1000, subp. 3.</p> <p>At 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.</p>	<p>Minn. R. 7019.1000, subp. 1</p>
<p>Breakdown Notification: 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 emission of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B, and C of Minn. R. 7019.1000, subp. 2.</p> <p>At 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.</p>	<p>Minn. R. 7019.1000, subp. 2</p>
<p>Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.</p>	<p>Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16 (J) and Minn. R. 7011.0705.</p>
<p>Circumvention: The Permittee is prohibited from installing or using 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.</p>	<p>Minn. R. 7011.0020</p>
<p>General Conditions: The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.</p>	<p>Minn. R. 7007.0800, subp. 16</p>

<p>Risk Management Plan: The Permittee may be required to submit a Risk Management Plan (RMP) under the federal rule, 40 CFR 68 which was promulgated on June 20, 1996. The rule requires each owner or operator of a stationary source, at which a regulated substance is present above a threshold quantity in a process to design and implement an accidental release prevention program. The RMP must be submitted to a centralized location as specified by US EPA. The Permittee shall obtain the RMP submittal information at http://www.epa.gov/swercepp or call 1-800-424-9346. These requirements must be complied with 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.</p>	40 CFR 68
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What to do	Why to do it
Emission Fees: Due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005-7002.0095
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, such as for system breakdowns, repairs, calibration checks, and zero and span adjustments, as applicable. Monitoring records should note any such periods of process shutdown.	Minn. R. 7007.0800, subp. 4 (D)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment on site. The Permittee shall operate and maintain the control equipment according to manufacturer's specifications. The Permittee shall comply with the Operation and Maintenance Plan.	Minn. R. 7007.0800, subp. 14 and subp. 16 (J)
Annual Compliance Certification: due 30 days after end of each calendar year (January 30) following Permit Issuance (for the previous calendar year). See form provided by the Commissioner in Appendix H.	Minn. R. 7007.0800, subp. 6 (C)
Inspections: Upon presentation of credentials allow the Agency, or its representative, 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 facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9
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
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

Annual Report, if applicable: Submit the updated list by February 1st every year. See form provided by the Commissioner in Appendix K.	Appendix K; 40 CFR § 63.468 (f); Minn. R. 7001.7200
Emission Inventory: Submit an emission inventory report by April 1st every year.	Minn. R. 7019.3000 - 7019.3010
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.	Minn. R. 7030.0010- 7030.0080
Source Specific Requirements: Comply with the source-specific requirements in Appendix G	See Appendix G

FOR BOILERS THAT USE NATURAL GAS ONLY AND SUBJECT TO NSPS, SUBPART Dc

Subject Item:	SV 100	Boilers (Constructed, modified or reconstructed after June 9, 1989 with a maximum design heat input capacity 10-100 MMBtu/hr).
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What to do	Why to d it
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. 7011.0570 and Minn. R. 7011.0515, subp. 2

FOR BOILERS USING NATURAL GAS AND DISTILLATE OIL, AND SUBJECT TO NSPS SUBPART Dc.

Subject Item:	SV 100	Boilers (Constructed, modified or reconstructed after June 9, 1989, with a maximum design heat input capacity 10-100 MMBtu/hr).
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What to do	Why to do it
Opacity: With the maximum heat input capacity of 100 million BTU per hour or less, but greater than or equal to 30 million BTU per hour; less than or equal 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity.	40 CFR § 60.43c (c) and Minn. R. 7011.0570
Opacity Testing: Conduct initial opacity performance test as required under 40 CFR § 60.8 using U.S. Environmental Protection Agency (EPA) Reference Method 9 within 60 days after achieving the maximum production rate at which the unit will be operated, but no later than 180 days after initial startup of the unit, if applicable.	40 CFR § 60.45 c (a)(7) and Minn. R. 7011.0570
Opacity Test data: Submit opacity limit performance test data from the stack emission tests conducted using Method 9 to MPCA within 60 days after achieving the maximum production rate at which the unit will be operated, but no later than 180 days after initial startup of the unit, if applicable.	40 CFR § 60.47 c (b) and Minn. R. 7011.0570

Opacity: less than or equal to 20% opacity; except for one-six-minute period per hour of not more than 60 percent opacity. (For Boilers with maximum heat input capacity less than 30 million BTU per hour, but greater than or equal to 10 million BTU per hour.)	Minn. R. 7011.0515, subp. 2, and Minn. R. 7011.0570
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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)
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What to do	Why to do it
PM: less than or equal to 0.4 pounds per 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 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)
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What to do	Why to do it
PM: less than or equal to 0.4 pounds per 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 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)
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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)
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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 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
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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	Minn. 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
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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 (Limited to a maximum 100 Million BTU per hour)
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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 (Limited to a maximum of 100 Million BTU per hour)
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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

Painting/coating booths placed in operation before July 9, 1969. (EXISTING PROCESS EQUIPMENT)

Subject Item:	SV 500	Painting/Coating Booths
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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)

Painting/coating placed in operation after July 9, 1969. (NEW PROCESS EQUIPMENT)

Subject Item:	SV 500	Painting/Coating Booths
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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)

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

Subject Item:	SV 600	Degreasers
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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 except for one-six-minute period per hour of not more than 60% opacity.	Minn. R. 7011.0710, subp. 1(B)

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

Subject Item:	SV 600	Degreasers
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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. 7011.0710, subp. 1(B)

Abrasive blasting booths placed in operation before July 9, 1969. (EXISTING PROCESS EQUIPMENT)

Subject Item:	SV 700	Abrasive Blasting Booths
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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 except for one-six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0710, subp. 1(B)

Abrasive blasting booths placed in operation after July 9, 1969. (NEW PROCESS EQUIPMENT)

Subject Item:	SV 700	Abrasive Blasting Booths
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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. 7011.0710, subp. 1(B)

Subject Item:	EU 100 200 300 400	Boilers Ovens Furnaces Internal Combustion Engines
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What to do	Why to do it
<p>Fuel usage: Limit the fuel usage for the combination of natural gas, distillate oil, liquefied petroleum and gasoline such that NO_x and CO emissions are less than a 12-month rolling sum of 99 tons. Refer to Appendix G for the limiting equation 1.</p>	<p>Title I Condition: Limit to avoid classification as a major source or modification under 40 CFR § 52.21; 40 CFR pt. 51, Appendix S, where applicable; Minn. R. 7007.3000</p>
<p>Record Keeping: 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 a 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 G to calculate your NO_x and CO emissions.</p>	<p>Title I Condition: Record keeping for limit to avoid classification as a major source or modification under 40 CFR § 52.21; 40 CFR pt. 51, Appendix S, where applicable; Minn. R. 7007.3000</p>

FOR BOILERS THAT USE NATURAL GAS ONLY

Subject Item:	EU 100	Boilers (Constructed, modified or reconstructed after June 9, 1989, with a maximum design heat input capacity 10-100 MMBtu/hr.)
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What to do	Why to do it
Reporting: Submit notification of construction or reconstruction: postmarked no later than 30 days after the start of construction as defined in 40 CFR § 60.2.	40 CFR § 60.48c (a) and Minn. R. 7011.0570
Reporting: Submit notification of actual startup: postmarked within 15 days after such date.	40 CFR § 60.48 c (a) and Minn. R. 7011.0570
Reporting: Submit notification of the design heat input capacity of the boiler postmarked within 15 days of actual startup date.	40 CFR § 60.48 c (a) and Minn. R. 7011.0570
Reporting: Submit notification of fuels to be combusted postmarked within 15 days of actual startup date.	40 CFR § 60.48 c (a) and Minn. R. 7011.0570
Reporting: Submit the anticipated annual capacity factor (actual heat input/potential heat input) postmarked within 15 days of actual startup date.	40 CFR § 60.48 c (a) and Minn. R. 7011.0570
Record Keeping: Record and maintain records of the amount of fuel combusted monthly basis. The report shall be in form of fuel bills or meter reading, or equivalent form as approved by the Commissioner.	40 CFR § 60.48 c (g), Minn. R. 7011.0510 and EPA's memo dated February 20, 1992.

FOR BOILERS USING DISTILLATE OIL

Subject Item:	EU 100	Boilers (Constructed, modified or reconstructed after June 9, 1989, with a maximum design heat input capacity 10-100 MMBtu/hr.)
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What to do	Why to do it
SO ₂ : By definition, distillate oil contains a maximum of 0.5% (by weight) sulfur.	40 CFR § 60.42c (d), Minn. R. 7011.0570, and ASTM definition
SO ₂ Compliance: Certification based on fuel supplier certification: 1. The name of the fuel supplier 2. Fuel supplier statement that the fuel complies with the definition of distillate oil.	40 CFR § 60.42c (h) and Minn. R. 7011.0570
Performance Test Pre-Test Meeting: 7 days before performance test date.	Minn. R. 7017.2030, subp. 4
Performance Test Notification: At least 30 days prior to the test.	40 CFR § 60.8 (d) and Minn. R. 7011.0570

Reporting : Submit notification of construction or reconstruction: postmarked no later than 30 days after the start of construction as defined in 40 CFR 60.2.	40 CFR § 60.48c (a) and Minn. R. 7011.0570
Reporting: Submit notification of actual startup: postmarked within 15 days after such date.	40 CFR § 60.48c (a) and Minn. R. 7011.0570
Reporting: Submit notification of fuels to be combusted postmarked within 15 days of the actual startup date.	40 CFR § 60.48c (a) and Minn. R. 7011.0570
Reporting: Submit the anticipated annual capacity factor (actual heat input/potential heat input) postmarked within 15 days of actual startup date.	40 CFR § 60.48c (a) and Minn. R. 7011.0570
Reports: Submit reports quarterly which must include: 1. Fuel supplier certifications 2. A certified statement that the records of the fuel supplier certifications submitted represent all of the fuel combusted in that quarter. The initial quarterly report shall be postmarked by the 30th day of the third month following the completion of the initial performance test . Each subsequently quarterly report shall be postmarked by the 30th day following the end of the reporting period.	40 CFR § 60.48c (e)(11) and Minn. R. 7011.0570
Reports: Submit fuel supplier certification stating the following: 1. Name of the oil supplier 2. A statement that the oil complies with the specification under the definition of distillate oil.	40 CFR § 60.48c (f) (1) and Minn. R. 7011.0570
Record Keeping: Record and maintain records of the amount of fuel combusted monthly basis. The record shall be in form of fuel bills or meter reading, for example.	40 CFR § 60.48c (g); Minn. R. 7011.0570 and EPA's memo dated February 20, 1992.

Subject Item:	EU 500 700	Painting/Coating Booths Abrasive Blasting Booth
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What to do	Why to do it
PM ₁₀ : PM ₁₀ emissions not to exceed a 12-month rolling sum of 90 tons. Refer to Appendix G for the limiting equation 2.	Title I Condition: Limit to avoid classification as a major source or modification under 40 CFR § 52.24
Record Keeping: The calculations shall be done by the 15th day of each month . Maintain all records of 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 G to calculate your PM₁₀ emissions).	Title I Condition: Record keeping for limit to avoid classification as a major source or modification under 40 CFR § 52.24

Subject Item:	EU 500 600 800	Painting/Coating Booths Degreasers Dip tanks
	TK 100	Distillate oil, LPG and Gasoline Tanks that do not qualify as an insignificant activities.

What to do	Why to do it
VOC usage: VOC usage not to exceed on a 12-month rolling sum of 241 tons. Refer to Appendix G for the limiting equation 3.	Title I Condition: Limit to avoid classification as a major source or modification under 40 CFR § 52.21 and Minn. R. 7007.3000.
<p>Record Keeping: Once each day, calculate and record the following for the previous day:</p> <p>A. The weight of VOC containing materials used; B. The VOC content in pounds per gallon of each coating/solvent used.</p> <p>In addition all Materials Safety Data Sheet (MSDS) for each shipment, purchase orders and invoices necessary to verify the type and quantity used.</p> <p>By the 15th day of each month calculate and record the following:</p> <p>C. Total gallons of each coating/solvent used during the previous month; D. The sum total VOC usage during the previous month (multiply the VOC content of each coating/solvent by the monthly coating/solvent usage (in pounds), sum the results, then convert total pounds to tons); E. Total VOC usage 12-month rolling sum</p> <p>(Calculate your 12-month rolling sum VOC usage limit every month by calculating a 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, Table C in the Appendix G to calculate your VOC emissions.</p>	Title I Condition: Record keeping for limit to avoid classification as a major source or modification under 40 CFR § 52.21 and Minn. R. 7007.3000.

The following National Emission Standards for Halogenated Solvent Cleaning Machines (40 CFR pt. 63, subp. T) apply to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform or any combination with these solvents, in a concentration greater than five weight percent and the holding capacity of a container for cleaning process is greater than two gallons.

(New Source: constructed or reconstructed after November 29, 1993)

(Existing Source: constructed or reconstructed on or before November 29, 1993. This includes machines constructed or reconstructed on or before November 29, 1993 that did not use halogenated HAP solvent liquid or vapor on December 2, 1994, when they commence using such liquid or vapor.

Subject Item:	EU 600	Each batch vapor, in-line vapor, and in-line cold cleaning machine
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What to do	Why to do it
<i>New Source:</i> Must be in compliance with all applicable requirements listed below immediately upon startup or by December 2, 1994.	40 CFR § 63.460 (c); Minn. R. 7011.7200
<i>Existing Source:</i> Must be in compliance with all applicable requirements listed below by December 2, 1997 or 60 days after commencing use of halogenated HAP solvent if the existing cleaning machine did not use halogenated HAP solvent on December 2, 1994.	40 CFR § 63.460 (d); Minn. R. 7011.7200
<i>Existing or New Machines:</i> Each cleaning machine shall meet the following design or operational requirements: <ol style="list-style-type: none"> 1. either employ an idling and downtime mode cover according to 40 CFR 63.463(a)(1)(i) or operate in a reduced room draft according to 2. have a freeboard ratio of 0.75 or greater; 3. have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts; and 4. if the machine uses a lip exhaust, it must have a properly designed and maintained carbon absorber that meets the requirements of 40 CFR § 63.463(e)(2)(vii). 	40 CFR § 63.463 (a); Minn. R. 7011.7200

<i>Existing or New Vapor Machines:</i> Each vapor cleaning machine shall meet the following additional design requirements: <ol style="list-style-type: none"> 1. equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils; 2. equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser; and 3. have a primary condenser. 	40 CFR § 63.463 (a)p; Minn. R. 7011.7200
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<p><i>Existing or New Machines:</i> Each cleaning machine shall monitor the hoist speed (HS) as described as follows:</p> <ol style="list-style-type: none"> 1. Determine the HS by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes. 2. The monitoring shall be conducted each month for the first year. If no exceedance occurs for the first 12 months, the frequency may be changed to quarterly. 3. If an exceedance occurs during quarterly monitoring, the monitoring frequency shall return to monthly until another 12 months without an exceedance occurs. 4. If the Permittee can demonstrate that the hoist cannot exceed a speed of 11 ft/min. the HS monitoring shall be done each quarter at all times. 	<p>40 CFR § 63.466 (c); Minn. R. 7011.7200</p>
<p><i>Existing or New Vapor Machines:</i> The Permittee shall either comply with a control combination option in Appendix K (7) of this permit or achieve and maintain a idling emission limit of 0.045 lb./hr/sq. ft.</p>	<p>Appendix K; 40 CFR § 63.463 (b) a; Minn. R. 7011.7200</p>
<p><i>Existing or New In-line Cleaning Machines:</i> The Permittee shall either comply with a control combination option in Appendix K (8) of this permit or achieve and maintain an idling emission limit of 0.021 lb./hr/sq. ft.</p>	<p>Appendix K; 40 CFR § 63.463 (c); Minn. R. 7011.7200</p>
<p><i>Compliance with the NESHAP:</i> If the Permittee chooses to comply with an idling emission limit under 40 CFR § 63.463(f), the Permittee must do the following:</p> <ol style="list-style-type: none"> 1. Conduct an initial performance test using the Reference Method 307 to demonstrate compliance with the applicable idling emission limit and to establish parameters that will be monitored and to demonstrate compliance. The Permittee shall submit a test report in accordance with Minn. R. 7017.2035. 2. A Permittee employing the control devices in Appendix K (5) of this permit to meet the idling emission limit shall comply with the applicable control device requirement (performance, monitoring, and recordkeeping) in Appendix K (5) of this permit. 3. A Permittee using control devices which are not listed in Appendix K (5) of this permit shall indicate whether the exceedance of the parameters that are monitored to determine whether it would be classified as an immediate exceedance or whether a 15 days repair period would be allowed and the monitoring frequency for each control. The information must be submitted in the initial test report for approval by the MPCA. 	<p>40 CFR § 63.463 (f); § 63.465, § 63.466 (f); Minn. R. 7011.7200, 7017.2035</p>
<p><i>Compliance with the NESHAP:</i> The Permittee shall meet the performance, monitoring and recordkeeping requirement for the control devices used to comply with this NESHAP standard as outlined in Appendix K (5) of this Permit.</p>	<p>40 CFR § 63.463; § 63.465, § 63.466, § 63.467 and Minn. R. 7011.7200</p>

<p><i>Control Combination Options:</i> The Permittee using a control combination option in Appendix K (7) or Appendix K (8) or complying with the idling emission limit shall maintain the following applicable records in written or electronic form for the lifetime of the machine:</p> <ol style="list-style-type: none"> 1. Owner's manual, or if not available, written maintenance and operating procedures, for the machine and control equipment. 2. Installation date of the machine and its control devices. 3. Dwell time for each part or parts basket. 4. Records of the halogenated HAP solvent content for each solvent used in the machine. 5. (idling emission limit) - records of the initial performance test, including the idling emission rate and values of the monitoring parameters measured during the test. 	40 CFR § 63.467 and Minn. R. 7011.7200
<p><i>Control Combination Options:</i> The Permittee using a control options in Appendix K (7) or Appendix K (8) or complying with the idling emission limit shall maintain following applicable records in written or electronic form for a period of 5 years:</p> <ol style="list-style-type: none"> 1. Applicable monitoring and recordkeeping requirement in Appendix K (5) of this permit. 2. Information on the actions taken to comply with a selected control option or idling emission limit, which shall include records of written or verbal orders for replacement parts, a description of the repairs made, and additional monitoring conducted to demonstrate that monitored parameters have returned to accepted levels. 3. Estimates of annual solvent consumption for each solvent cleaning machine; and 4. the weekly measurement of the halogenated HAP solvent concentration in the carbon absorber exhaust. 	40 CFR § 63.467 and Minn. R. 7011.7200
<p>The Permittee shall use the forms in Appendix K of this permit, when submitting an initial notification report compliance report, exceedance report and annual report as mentioned below. For an exceedance report the Permittee shall use the Deviation Reporting Form (DRF-2).</p>	40 CFR § 63.468; Minn. R. 7007.0800
<p><i>Initial Notification Report for New Sources Only:</i> Prior to construction or reconstruction of a new degreaser unit, the Permittee shall submit an initial notification report as soon as practicable before the construction or reconstruction is planned to commence.</p>	Appendix K (1); 40 CFR § 63.468; Minn. R. 7007.0800, subp. 2
<p><i>Compliance Report for New Sources:</i> must be submitted to the MPCA no later than 150 days after startup or May 1, 1995, whichever is later. <i>Compliance Report for Existing Sources:</i> must be submitted to the MPCA no later than May 1, 1998.</p>	Appendix K (4) 40 CFR § 63.468(c) Minn. R. 7011.7200;
<p><i>Annual Report:</i> Using the form in Appendix K (6), the Permittee shall submit an annual report by February 1 of the year following the one for which the report is being made.</p>	Appendix K (6); 40 CFR § 63.468(f); Minn. R. 7011.7200
<p><i>Exceedance Report:</i> Using the Deviation Reporting Form (DRF-2) in Appendix H, the Permittee shall submit an exceedance report semiannually. However, once an exceedance has occurred the Permittee shall submit the exceedance report 30 days following the end of that quarter.</p>	DRF-2, Appendix H; 40 CFR § 63.468(h); Minn. R. 7011.7200

<p><i>Existing or New Machines Operational Practices:</i> When applicable, each cleaning machine shall meet the following work and operational practices requirements.</p> <ol style="list-style-type: none">1. Control air disturbances across the cleaning machine opening by either employing idling and downtime mode cover or reduced room draft.2. The parts baskets or the parts being cleaned in an open-top batch vapor cleaning machine shall not occupy more than 50% of the solvent/air interface area unless the parts baskets or parts are introduced at a speed of 3 feet per minute or less.3. Any spraying operation shall be done within the vapor zone or within a section of the solvent cleaning machine that is not directly exposed to the ambient air.4. Parts shall be oriented so that the solvent drains from them freely. Parts having cavities or blind holes shall be tipped or rotated before being removed from the machine.5. Parts baskets or parts shall be removed from the machine after dripping has stopped.6. During startup of the machine, the primary condenser shall be turned on before the sump heater.7. During shutdown of the machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.8. The solvent shall be transferred to and from the machine using threaded or other leak proof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.9. When a control option includes control equipment, it shall be maintained as recommended by the manufacturers of the equipment.10. Each operator shall complete and pass the applicable sections of the test (See Appendix L of this permit), if requested during an inspection by the MPCA.11. Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.12. Sponges, fabric, wood, and paper products shall not be cleaned.	<p>40 CFR § 63.463 (d); Minn. R. 7011.7200</p>
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Subject Item:	EU 600	Each Cold Batch Cleaning machine: (<i>New Source</i> : constructed or reconstructed after 11/29/93) (<i>Existing Source</i> : constructed or reconstructed on or before or 11/29/93 or existing non-halogenated solvent cleaning machine on 12/2/94, becomes a halogenated solvent machine)
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What to do	Why to do it
<i>New Source</i> : Must be in compliance with applicable requirements listed below immediately upon startup or by December 2, 1994.	40 CFR § 63.460 (c); Minn. R. 7011.7200
<i>Existing Source</i> : Must be in compliance with applicable requirements listed below by December 2, 1997.	40 CFR § 63.460 (d); Minn. R. 7011.7200
<i>Immersion Batch Cold Solvent Cleaning Machine</i> : The Permittee shall employ a tightly fitting cover which shall be closed at all times except during parts entry and removal and either employ a water layer at a minimum thickness of 2.5 centimeters (1.0 inch) on the surface of the solvent within the cleaning machine, or a freeboard ratio of 0.75 or greater.	40 CFR § 63.462(a); Minn. R. 7011.7200
<i>Remote-Reservoir Batch Cold Solvent Cleaning Machine</i> : The Permittee shall employ a tightly fitting cover over the solvent sump that shall be closed at all times except during the cleaning of parts.	40 CFR § 63.462(b); Minn. R. 7011.7200
The Permittee shall use the form in Appendix K of this permit, when submitting an initial notification report or compliance report.	40 CFR § 63.462 (d), § 63.468; Minn. R. 7007.0800
<i>Initial Notification Report for New Sources Only</i> : Prior to construction or reconstruction of a new cleaning machine, the Permittee shall submit an initial notification report as soon as practicable before the construction or reconstruction is planned to commence.	Appendix K (2); 40 CFR § 63.468; Minn. R. 7007.0800, subp. 2
<i>Compliance Report for New Source</i> : must be submitted to the MPCA no later than 150 days after startup or May 1, 1995, whichever is later. <i>Compliance Report for Existing Source</i> : must be submitted to the MPCA no later than May 1, 1998.	Appendix K (3); 40 CFR § 63.468(c); Minn. R. 7011.7200

What to do	Why to do it
<p>Immersion Batch Cold Solvent Cleaning Machine where the <i>choice of control option is a freeboard ratio</i>, and Remote-Reservoir Batch Cold Solvent Cleaning Machine: The Permittee shall comply with the following work and operational practice requirements:</p> <ol style="list-style-type: none"> 1. All waste solvent shall be collected and stored in closed containers. The closed container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container. 2. If a flexible hose or flushing device is used, flushing shall be performed only within the freeboard area of the solvent cleaning machine. 3. The solvent cleaned parts shall be drained for 15 seconds or until dripping has stopped, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while draining. 4. The owner or operator shall ensure that the solvent level does not exceed the fill line. 5. Spills during solvent transfer shall be wiped up immediately. The wipe rags shall be stored in a closed container. 6. When an air or pump-agitated solvent bath is used, the owner or operator shall ensure that the agitator is operated to produce a rolling motion of the solvent but not observable splashing against tank walls or parts being cleaned. 7. The Permittee shall ensure that, when the cover is open, the cold cleaning machine is not exposed to drafts greater than 132 feet per minute, as measured between 3.3 and 6.6 feet upwind and at the same elevation as the tank lip. 8. Sponges, fabric, wood, and paper products shall not be cleaned. 	<p>40 CFR § 63.462(b); Minn. R. 7011.7200</p>

Storage tanks placed in operation after July 23, 1984, and subject to NSPS. This permit authorizes 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).
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What to do	Why to do it
Record keeping: Maintain records showing the dimension of the storage tank and an analysis showing the capacity of the storage tanks.	40 CFR § 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).
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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).
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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 (OM) 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 100	Fabric Filters
Associated Item:	EU 500	Spray Booths

What to do	Why to do it
Operation and Maintenance of Fabric Filter: The Permittee shall operate and maintain the fabric filter 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).	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Pressure Drop: Maintain greater than or equal to ◊ inches of water column and less than or equal to ◊ inches of water column.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Record keeping of Pressure Drop. The Permittee shall record pressure drop once every 24 hours, if spray booth in operation and whether or not the recorded pressure drop was within the range specified in the compliance management plan. If it is not within the range, then it will be considered a deviation.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Visible Emissions: The Permittee shall check the fabric filter stack (SV ###) for any visible emissions once each day of operation during daylight hours.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 5
Record keeping of Visible Emissions (VE): The Permittee shall keep records on the time and date of VE inspections, and whether or not any VEs were observed.	
Record keeping of corrective actions: The Permittee shall follow the OM plan for the fabric filter and take corrective actions as soon as possible to eliminate any problem associated with this control equipment as follows: <ul style="list-style-type: none"> • if visible emissions are observed; • if the recorded pressure drop is outside the required operating range; or • if the fabric filter or any of its components are found during the inspections to need repair, <p>The Permittee shall keep a record of the type and date of any corrective actions taken.</p>	Minn. R. 7007.0800, subp. 5

The Permittee shall record this data in the Operation and Maintenance (OM) 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	Spray Booths

What to do	Why to do it
Operation and Maintenance of Wall/Panel Filter: The Permittee shall operate and maintain the wall/panel filter 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).	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Daily Inspections: Once each operating day, if the spray booth in operation, the Permittee shall visually inspect the condition of each wall/panel filter with respect to alignment, saturation, tears, holes and any other matter than may affect the filter's performance. The Permittee shall maintain a daily written record of filter inspections.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Periodic Inspections: At least once 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.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Recordkeeping of corrective actions: If the filters or any of their components are found during the inspections to need repair, the Permittee shall follow the O & M Plan for the wall/panel filter and take corrective action as soon as possible. The Permittee shall keep a record of the type and date of any corrective action taken for each filter	Minn. R. 7007.0800, subp. 5

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 (OM) 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	Spray Booths

What to do	Why to do it
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).	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
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 <95/57> percent efficiency	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Temperature: The Permittee shall maintain a minimum inlet temperature of <> and a minimum outlet temperature of <> when operating.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Catalyst Reactivity: The Permittee shall verify the catalyst reactivity per the manufacturer's specifications and shall maintain a record of the results.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
The Permittee shall maintain either a continuous hard copy readout of the inlet and outlet temperatures or maintain a hard copy of manual readings taken at least every 15 minutes.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Record keeping of 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 follow the O & M Plan for the oxidizer and take corrective action as soon as possible. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4

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 (OM) 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	Spray Booths

What to do	Why to do it
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).	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
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 <95/57> percent efficiency	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Temperature: The Permittee shall maintain a minimum combustion temperature of < > F when operating.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
The Permittee shall maintain either a continuous hard copy readout of the inlet and outlet temperatures or maintain a hard copy of manual readings taken at least every 15 minutes.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Record keeping of 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 follow the O & M Plan for the oxidizer and take corrective action as soon as possible. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4

This carat (\diamond) means to input a numerical number according to the design of the thermal afterburner. The Permittee shall record this data in the Operation and Maintenance (OM) 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 Afterburner
Associated Item:	EU 200	Burn-off Oven

What to do	Why to do it
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).	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
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 $95/57$ percent efficiency	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Temperature: The Permittee shall maintain a minimum combustion temperature of \diamond F when operating.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
The Permittee shall maintain either a continuous hard copy readout of the inlet and outlet temperatures or maintain a hard copy of manual readings taken at least every 15 minutes.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Record keeping of 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 follow the O & M Plan for the oxidizer and take corrective action as soon as possible. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4

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 (OM) 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:	CE100	Fabric Filter
Associated Item:	EU 700	Abrasive Blasting Booths

What to do	Why to do it
Operation and Maintenance of Fabric Filter: The Permittee shall operate and maintain the fabric filter 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).	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Pressure Drop: Maintain greater than or equal to <> inches of water column and less than or equal to <> inches of water column.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Record keeping of Pressure Drop. The Permittee shall record pressure drop once every 24 hours, if blasting booth in operation and whether or not the recorded pressure drop was within the range specified in the compliance management plan. If it is not within the range, then it will be considered a deviation.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 4
Visible Emissions: The Permittee shall check the fabric filter stack (SV ##) for any visible emissions once each day of operation during daylight hours.	Minn. R. 7011.0080; Minn. R. 7007.0800, subp. 5
Record keeping of Visible Emissions(VE): The Permittee shall keep records on the time and date of VE inspections, and whether or not any VEs were observed.	
Record keeping of corrective actions: The Permittee shall follow the OM plan for the fabric filter and take corrective actions as soon as possible to eliminate any problem associated with this control equipment as follows: <ul style="list-style-type: none"> • if visible emissions are observed; • if the recorded pressure drop is outside the required operating range; or • if the fabric filter or any of its components are found during the inspections to need repair, <p>The Permittee shall keep a record of the type and date of any corrective actions taken.</p>	Minn. R. 7007.0800, subp. 5

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:

When to send	What to send	Portion of facility affected
Due 180 days before expiration of existing permit	Application for Permit Reissuance	Total Facility
Installation of a New cleaning machine that is subject to the halogenated solvent NESHAP	Initial Notification Report	Emission Unit 600 Series
Due no later than a 150 days after startup of New cleaning machine subject to the halogenated solvent NESHAP	Compliance Report	Emission Unit 600 Series
Due no later than May 1, 1998, for Existing cleaning machines subject to the halogenated solvent NESHAP	Compliance Report	Emission Unit 600 Series
Due 60 days after permit issuance	Compliance Management Plan	Total Facility
Due 7 days before making a change to the facility	Compliance Management Plan Update	Emission Unit
Due within 7 days of the name change in ownership or operational control of the company.	Air Emission General Permit Administrative Change	Total Facility

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

When to send	What to send	Portion of facility affected
Notification of the Date Construction Began	due 30 days after start of construction	Emission Unit 100 Series
Notification of Actual Date of Initial Startup	due 15 days after initial startup	Emission Unit 100 Series
Notification of Design Heat Input, Fuels and Anticipated Annual Capacity Factor	due 15 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.	Emission Unit 100 Series

SOURCE-SPECIFIC SUBMITTALS--RECURRENT SUBMITTALS:

When to send	What to send	Portion of facility affected
At least semiannually (January 30, July 30); see Table C	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.	Emission Unit 100 Series
Semi-annually: January 30, July 30	Deviations Reports To be submitted on a form approved in Appendix H, with a summary of <i>all</i> instances of deviations from permit conditions. Submit the January 30 report with your annual Compliance Certification. If there are no deviations during a report period, the Permittee shall submit the report stating there are no deviations.	Total Facility
Annually: January 30, for the previous calendar year	Annual Compliance Certification To be submitted on a form approved by the Commissioner, in Appendix H.	Total facility
Annually: January 30, for the previous calendar year	Equipment Inventory List	Total facility
Annually: April 1, for the previous calendar year	Emissions Inventory Report	Total facility
Annually: Within 60 days of receipt of an MPCA bill	Emission Fees	Total facility
Semi-annually: January 30, July 30; If applicable, Quarterly: 30 days at the end of each quarter	Exceedance Report	Emission Unit 600 Series
Annually: February 1, for the previous calendar year	Annual Report for cleaning machines subject to the halogenated solvent NESHAP	Emission Unit 600 Series

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)
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Citation	Corrective action	When to complete this action
40 CFR § 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 § c (a)(7) 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 § 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)
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Citation	Corrective action	When to complete this action
40 CFR 60.116b(b) and Minn. R. 7011.1520 (C)	Record keeping - 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	Painting/coating Booths
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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.

APPENDIX G: 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 100 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:

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

where:

EF = emission factor (see Table 6.2 and 6.3)
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
g = gasoline
ihs = indirect heating source
rice = reciprocating internal combustion engines
0.0005 = conversion factor, ton/lb

Table 6.2

Industrial Indirect Heating Sources				
Emission Factor				
Pollutant	Natural Gas (lb/MMft³)	LPG - Butane (lb/1000 gal)	LPG - Propane (lb/1000 gal)	Distillate Oil (lb/1000 gal)
PM	13.7	0.6	0.6	2
PM ₁₀	13.7	0.6	0.6	2
SO _x	0.6	0.09S	0.10S	144S
NO _x	140	21	19	25
VOC	2.784	0.6	0.5	0.2
CO	61	3.6	3.2	5
Pb	-	-	-	0.0

Table 6.3

Industrial Reciprocating Internal Combustion Engines			
Emission Factors			
Pollutant	Natural Gas (lb/MMft³)	Distillate Oil (Diesel) (lb/1000 gal)	Gasoline (lb/1000 gal)
PM	10.0	33.5	6.47
PM ₁₀	10.0	32.0	6.2
SO _x	0.6	31.2	5.31
NO _x	3400.0	469.0	102.0
VOC	82.9	32.1	147.7
CO	430.0	102.0	3940.0
Pb	-	-	-

Notes:

- (1) PM = Particulate Matter
 PM₁₀ = Particulate Matter less than 10 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

- (2) Natural Gas heating value is 1,050 Btu/standard cubic foot.
LPG heating value is 94,000 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 grams/1000 cubic foot gas vapor. S is assumed to be 15 grams/1000 cubic feet vapor which is equivalent to 0.02 percent sulfur by weight.

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 below:

TABLE A

Number of Months in Operation	Cumulative NO _x /CO Emission Limit During First 12 Months of Operation (ton)
1	20.0
2	27.2
3	34.4
4	41.6
5	48.8
6	56.0
7	63.2
8	70.4
9	77.6
10	84.8
11	92.0
12	99.0

2. The Limitation for PM₁₀ Based on a 12-month rolling sum

Permittee with Operating Records. The PM₁₀ 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 92 percent and greater.

$$PM_{10} = \left[(P_c \times t_1 \times ((100 - \%control) / 100)) + (P_d \times t_2 \times ((100 - \%control) / 100)) \right] \times 0.0005 \text{ ton / mon}$$

Equation 2b, for sources with 80 percent capture efficiency and collection efficiency of 92 percent and greater.

$$PM_{10} = \left[(0.8P_c \times t_1 \times ((100 - \%control) / 100)) + (0.8P_d \times t_2 \times ((100 - \%control) / 100)) \right] \times 0.0005 \text{ ton / mon} \\ + 0.2P_c \times t_1 \times 0.0005 \text{ ton / mon} + 0.2P_d \times t_2 \times 0.0005 \text{ ton / mon}$$

where:

- P_c = uncontrolled particulate emissions from the painting/coating, pounds/hour (lb/ hr)
- t₁ = operating hours of the painting/coating operation during the month, hour/month (hr/month)
- P_d = uncontrolled particulate emissions from blasting, lb/hr
- t₂ = monthly operating hours of the blasting operation, hr/month
- %control = overall control efficiency of the particulate control equipment.
- 0.0005 = conversion factor, ton/pounds (ton/lbs)

Emissions factors for PM₁₀ emissions from abrasive blasting obtained from Volume I of STAPPA-ALAPCO “Air Quality Permits” are given in Table 6.6.

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

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 B below:

TABLE B

Number of Months in Operation	Cumulative PM ₁₀ Emission Limit During First 12 Months of Operation (ton)
1	20.0
2	26.5
3	33.0
4	39.5
5	46.0
6	52.5
7	59.0
8	65.5
9	72.0
10	78.5
11	84.0
12	90.0

3. 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:

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

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_i as applied, %wt

%control = overall control efficiency VOC control equipment; use 95% for total enclosure and 57% for hood

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

0.0005 = conversion factor, ton/lb

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 C:

Number of Months in Operation	Cumulative VOC Usage Limit During First 12 Months of Operation (ton)
1	50.0
2	67.3
3	84.5
4	101.8
5	119.0
6	136.3
7	153.5
8	170.8
9	188.0
10	206.0
11	223.0
12	241.0

APPENDIX H - DEVIATIONS REPORTING FORMS



MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

DEVIATION REPORTING FORM **DRF-2**
**DEVIATIONS IDENTIFIED BY PERIODIC
MONITORING SYSTEMS OR THROUGH
RECORDKEEPING**

12/00

Use this form to record and report deviations that are identified by *Periodic Monitoring Systems or Recordkeeping*. “Periodic Monitoring System” means a monitoring system in which the monitor’s output is not recorded continuously.

GENERAL FACILITY INFORMATION

Facility Name: _____ AQ Facility ID: _____

Report Covers From _____ To: _____ of _____ (year).

DESCRIPTION OF DEVIATIONS - Provide the following information regarding each individual deviation identified by a periodic monitoring system. Be sure to report any deviations which occurred during monitor downtime or monitor bypasses.

Date of Deviation	Emission Unit ID No.	Monitor ID No.	Cite Permit Condition Which Was Deviated From	Description of Deviation and Corrective Action Taken

DESCRIPTION OF MONITOR DOWNTIME - Provide the following information regarding each period when a periodic monitoring system did not record required data.

Date and Time of Missed Record	Monitor ID No.	Emission Unit ID No.	Pollutant or Parameter Monitored	Cause of the Monitor Downtime and Corrective Action Taken

SUMMARY OF DEVIATIONS AND MONITOR DOWNTIME - Provide the following summary information. Fill out a separate row of the table *for each monitor*.

Monitor ID No.	Total Number of Readings Taken	Total Number of Readings Indicating Deviations	Percent of Readings Indicating Deviations	Total No. of Readings Missed	Total Percentage of Readings Missed

DEVIATIONS DISCOVERED THROUGH RECORDKEEPING: In the following section, list each deviation that was discovered through recordkeeping (e.g. your fuel use records indicate that you exceeded your fuel use limits). Provide at least the date(s) of each deviation; level of deviation; emission unit and the cause of each deviation.

1. _____
2. _____
3. _____

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Signature of Responsible Official

Printed Name of Person Signing

Title

Date

Note: The individual signing must meet the definition of “responsible official” in Minn. R. 7007.0100, subp. 21.

Forward To: Air Quality Compliance Tracking Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194



MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

REPORTING FORM **CR-04**
ANNUAL COMPLIANCE
CERTIFICATION REPORT
12//00

GENERAL FACILITY INFORMATION

Facility Name: _____

AQ Facility ID Number: _____

This certification report covers the period of January 1-December 31, _____

REPORTS THAT WERE SUBMITTED TO THE MPCA AND WHICH INCLUDED DEVIATIONS

☐ Check here if no deviations have been reported. Only list below reports which included deviations.

Type of Deviation Report	Period Covered by Report	Date of Cover Letter Accompanying Report

CERTIFICATION

I certify under penalty of law that I have reviewed this facility's compliance status with respect to *all* permit conditions for the above specified calendar year. I have determined, to the best of my knowledge, that this facility has been in continuous compliance with all permit conditions with the exception of those requirements listed in the above deviations report(s) which have been submitted to the Air Quality Compliance Tracking Coordinator at the Minnesota Pollution Control Agency (MPCA):

Signature of Responsible Official

Printed Name of Person Signing

Title

Date

Note: The individual signing must meet the definition of "responsible official" in Minn. R. 7007.0100, subp. 21.

Forward To: Air Quality Compliance Tracking
Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road North
Saint Paul, Minnesota 55155-4194

Mr. George Czerniak, Chief
Air Enforcement & Compliance Assurance Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

APPENDIX I

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 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)**
											--		
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											--		
											--		
1											--	99	20.0
2												99	27.2
3												99	34.4
4												99	41.6
5												99	48.8
6												99	56.0
7												99	63.2
8												99	70.4
9												99	77.6
10												99	84.8
11												99	92.0
12												99	99.0

* 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 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											--	99	20.0
2												99	27.2
3												99	34.4
4												99	41.6
5												99	48.8
6												99	56.0
7												99	63.2
8												99	70.4
9												99	77.6
10												99	84.8
11												99	92.0
12												99	99.0

* 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 PM₁₀ EMISSIONS WORKSHEET

	Month	Year	Total Monthly PM ₁₀ emissions from painting/coating (ton/month)	Total Monthly PM ₁₀ emissions from blasting (ton/month)	PM ₁₀ Emissions from MISC. Sources (ton/month)	Total Monthly PM ₁₀ Emissions * (ton/month)	Permit Limit: PM ₁₀ Emissions (current month plus the previous 11 months). This number has to be less than or equal to 90 tons (tons) (tons)**	
1								20.0
2								26.5
3								33.0
4								39.5
5								46.0
6								52.5
7								59.0
8								65.5
9								72.0
10								78.5
11								84.0
12								90.0

* PM Emissions (ton/mo) = Add the emissions from painting/coating, blasting and the miscellaneous sources (see equation 2 on page 45)

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

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 Usage from painting/coating (ton/month)	Total Monthly VOC Usage 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 241 tons (tons) (tons)**	
1								50.0
2								67.5
3								84.5
4								101.8
5								119.0
6								136.3
7								153.5
8								170.8
9								188.0
10								206.0
11								223.0
12								241.0

* VOC Emissions (ton/mo) = Add the emissions from painting/coating, cleaning , storage tanks and miscellaneous sources. (see equation 3 on page 47)

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

APPENDIX J

EQUIPMENT INVENTORY LIST FORM

AQ Facility ID No.: _____

Facility Name: _____

[illegible]

APPENDIX K

1. National Emission Standard for Hazardous Air Pollutants (NESHAP) for Degreasers Initial Notification Report for New Cleaning Machine

AQ Facility ID No.: _____				
AQ File No: _____				
Owner/Operator: _____			Date: _____	
Last Name,	First Name,	Middle Initial		
Company Name: _____				
Mailing Address: _____				
Street	City	State	Zip	
Equipment Location Address: _____				
Street	City	State	Zip	

Cleaning Machine Summary

- | Identification Number | Description |
|-----------------------|--|
| 1. | Type of machine intended for construction /reconstruction (check one):
<input type="checkbox"/> Batch vapor <input type="checkbox"/> Cold in-line <input type="checkbox"/> Vapor in-line |
| 2. | Solvent/air interface area: _____ square meters or _____ square inches |
| 3. | Intended controls:
<input type="checkbox"/> Freeboard ratio of 1.0 <input type="checkbox"/> Carbon adsorber <input type="checkbox"/> Freeboard refrigeration device
<input type="checkbox"/> Reduced room draft <input type="checkbox"/> Super-heated vapor <input type="checkbox"/> Dwell
<input type="checkbox"/> Working-mode cover <input type="checkbox"/> Other _____ (control) |
| 4. | Proposed construction or reconstruction commencement date: _____ |
| 5. | Expected construction or reconstruction completion date: _____ |
| 6. | Anticipated date of initial startup: _____ |
| 7. | Anticipated compliance approach:
<input type="checkbox"/> Basic equipment standard <input type="checkbox"/> Idling emission standard <input type="checkbox"/> Alternative standard |
| 8. | Estimate of halogenated HAP* solvent consumption: _____ kilograms/year (pounds/year) |

* HAP refers to Hazardous Air Pollutants (specifically: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride and chloroform)

2. National Emission Standard for Hazardous Air Pollutants (NESHAP) for Degreasers Initial Notification Report for Batch Cold Cleaning Machine (New Source)

AQ Facility ID No.: _____				
AQ File No: _____				
Owner/Operator: _____			Date: _____	
Last Name,	First Name,	Middle Initial		
Company Name: _____				
Mailing Address: _____				
Street	City	State	Zip	
Equipment Location Address: _____				
Street	City	State	Zip	

Information Required **Per** Cleaning Machine (Make copies for additional machines as necessary)

1. Cleaner Identification Number: _____
2. Cleaning Machine Type (check one): _____ Immersion _____ Remote-Reservoir
3. Solvent/air interface area: _____
4. Machine installation date: _____
5. Any existing controls: _____
6. Anticipated equipment control combination compliance approach (check one):
 _____ Cover and water _____ Cover with work _____ Cover and a 0.75 freeboard ratio
 layer Practices or greater with work practices
7. Annual solvent consumption estimate: _____ kilograms/year or _____ pounds/year
8. Proposed construction or reconstruction commencement date: _____
9. Expected construction or reconstruction completion date: _____
10. Anticipated date of initial startup: _____

3. National Emission Standard for Hazardous Air Pollutants (NESHAP) for Degreasers Compliance Report for Batch Cold Cleaning Machine

AQ Facility ID No.: _____				
AQ File No.: _____				
Owner/Operator: _____			Date: _____	
Last Name,	First Name,	Middle Initial		
Company Name: _____				
Mailing Address: _____				
Street	City	State	Zip	
Equipment Location Address: _____				
Street	City	State	Zip	

Cleaning Machine Summary
Identification Number

Description

Information Required **Per** Cleaning Machine (Make copies for additional machines as necessary)

1. Cleaner Identification Number: _____
2. Cleaning Machine Type (check one): _____ Immersion _____ Remote-Reservoir
3. Method of Compliance (check one):
 _____ Cover and water _____ Cover with work _____ Cover and a 0.75 freeboard ratio
 layer Practices or greater with work practices
4. This batch cold cleaner complies with the rule.

 Signature of Owner/Operator

 Date

4. National Emission Standard for Hazardous Air Pollutants (NESHAP) for Degreasers Initial Statement of Compliance for Cleaning Machines Complying with the Equipment Standard

AQ Facility ID No.: _____				
AQ File No.: _____				
Owner/Operator: _____			Date: _____	
Last Name,	First Name,	Middle Initial		
Company Name: _____				
Mailing Address: _____				
Street	City	State	Zip	
Equipment Location Address: _____				
Street	City	State	Zip	

Cleaning Machine Summary

<u>Identification Number</u>	<u>Description</u>
------------------------------	--------------------

- | | | | |
|----|---|--|--------------------------------------|
| 1. | Type of machine (check one): | _____ Batch vapor | _____ In-line |
| 2. | Solvent/air interface area | _____ square meters | or _____ square feet |
| 3. | Equipment standard compliance method chosen: | | |
| | _____ Control combination | _____ Idling emissions limit (attach idling emission limit test report) | |
| 4. | Control equipment used to comply with the rule: | | |
| | _____ Freeboard ratio of 1.0 | _____ Carbon adsorber | _____ Freeboard refrigeration device |
| | _____ Reduced room draft | _____ Super-heated vapor | _____ Dwell |
| | _____ Working-mode cover | _____ Other _____ (control) | |
| 5. | This cleaning machine complies with the rule. | | |

Signature of Owner/Operator

Date

5. Performance, Monitoring, Recordkeeping and Requirement for Control Devices

Control Device	Performance Requirement	Exceed- ance (*)	Monitoring and Recording Requirements
Freeboard refrigeration device	The chilled air blanket temperature measured at the center of the air blanket, shall not be greater than 30% of the solvent's boiling point.	A	The Permittee shall use thermocouple or thermometer to monitor the temperature at the center of the air blanket during the idling mode and record the results on a weekly basis.
Reduced room draft	<p>1. Ensure the flow or movement of air across the top of the freeboard area of the solvent cleaning machine or within the solvent cleaning machine enclosure does not exceed 50 ft/min at any time, either by <i>controlling room parameters</i> or using an <i>enclosure</i>.</p> <p>2. Establish and maintain the operating conditions under which the wind speed was demonstrated to be 50 ft/min. or less.</p>	<p>A</p> <p>B</p>	<p><u>Controlling room parameters</u> - • The Permittee shall conduct an initial monitoring test of the windspeed and of room parameters (i.e. redirecting fans, closing doors and windows, etc.), using the following procedure:</p> <ol style="list-style-type: none"> The windspeed shall be measured within 6 inches above the top of the freeboard area of the solvent cleaning machine. The direction of the wind current by slowly rotating a velometer or similar device until the maximum speed is located. Orient a velometer in the direction of the wind current at each of the 4 corners of the machine. Record the reading for each corner and average the values obtained at each corner and record the average wind speed. <p>• Using the above procedure, the Permittee shall monitor and record the windspeed on a quarterly basis, and monitor and record the room parameters established during the initial monitoring test on a weekly basis.</p> <p><u>Partial or total enclosure</u> - • The Permittee shall conduct an initial monitoring test, thereafter monthly monitoring tests of the windspeed as follows: determine the direction of the wind current in the enclosure by slowly rotating a velometer inside the entrance to the enclosure until the maximum speed is located and record the maximum wind speed. On a monthly basis the Permittee shall also record the results of the visual inspection to ensure the enclosure is free of cracks, holes and other defects.</p>

Working - mode cover	1. Ensure that the cover opens only for part entrance and removal and completely covers the cleaning machine opening when closed.	B	The Permittee shall conduct a visual inspection to determine if the cover is opening and closing properly, completely covers the cleaning machine openings when closed, and is free of cracks, holes, and other defects. The Permittee shall record the results on a monthly basis.
	2. Ensure that the cover is maintained free of cracks, holes, and other defects.	A	
Idling - mode cover	1. Ensure that the cover is in place whenever parts are in the machine and completely covers the cleaning machine openings when in place.	B	The Permittee shall conduct a visual inspection to determine if the cover is opening and closing properly, completely covers the cleaning machine openings when closed, and is free of cracks, holes, and other defects. The Permittee shall record the results on a monthly basis.
	2. Ensure that the cover is maintained free of cracks, holes, and other defects.	A	
Dwell	1. The Permittee shall determine the dwell time for each part or parts basket, or determine the maximum dwell time using the most complex part type or parts basket, using the following procedure: 1) determine the amount of time for the part or parts basket to cease dripping once placed in the vapor zone. The part or parts basket shall be at room temperature before being placed in the vapor zone. 2) The proper dwell time for parts to remain in the free board area above the vapor zone is no less than 35% of the time determined in 1). The Permittee shall record the dwell time for each part or parts basket.	B	
	2. Ensure that, after cleaning, each part is held in the machine freeboard area above the vapor zone for the dwell time determined as above.	B	On a monthly basis, the Permittee shall monitor and record the actual dwell time by measuring the period of time that parts are held within the freeboard area of the solvent cleaning machine after cleaning.

Superheated vapor system	1. The solvent vapor at the center of the superheated vapor zone is at least 10 F above the solvent's boiling point.	A	The Permittee shall use a thermometer or thermocouple to monitor the temperature at the center of the superheated solvent vapor zone while the solvent cleaning machine is in the idling mode and record the results on a weekly basis.
	2. Ensure that the manufacturer's specifications for determining the superheated vapor system is followed.	B	
	3. Ensure that parts remain within the superheated vapor for at least the minimum proper dwell time.	B	
Carbon absorber	1. The concentration of HAP shall not exceed 100 ppm.	A	The Permittee shall measure and record the concentration of HAP solvent in the exhaust of the carbon absorber weekly with a calorimetric detector tube. The measurement shall be conducted while the solvent cleaning machine is in the working mode and is venting to the carbon absorber using the following procedures: 1) Use a calorimetric detector tube designed to measure a concentration of 100 ppmv of solvent in air to an accuracy of plus or minus 25 ppmv. 2) Use the tube in accordance with the manufacturer's instruction. 3) A sampling port shall meet the minimum requirement for EPA method 1 of the 40 CFR part 60, Appendix A.
	2. The cleaning machine shall be used at all times with its associated carbon absorber.	B	
	3. The lip exhaust is located above the solvent cleaning machine cover so that the cover closes below the lip exhaust level.	B	

(*)Exceedances - A:

1. Out of compliance with requirement and are not corrected within 15 days of detection.
2. Adjustments or repairs shall be made to the solvent cleaning system or control device to reestablish required levels.
3. The parameter must be remeasured immediately upon adjustment or repair and demonstrated to be within required limits.

(*)Exceedances - B: Out of compliance with requirement.

6. National Emission Standard for Hazardous Air Pollutants (NESHAP) for Degreasers Annual Report

AQD Facility ID No.: _____				
AQD File No: _____				
Owner/Operator: _____			Date: _____	
Last Name,		First Name,	Middle Initial	
Company Name: _____				
Mailing Address: _____				
Street		City	State	Zip
Intended Equipment				
Location Address: _____				
Street		City	State	Zip

Cleaning Machine Summary

Identification Number

Description

Information Required Per Cleaning Machine

Cleaner Identification Number: _____

Check compliance option chosen and fill out appropriate report requirements.

☐ Control Options

All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the required operator test.

Previous Year's Solvent Consumption _____ kilogram/year (or pounds/year)

☐ Alternative Standard

Cleaning machine size:

Solvent-air interface area _____ square meters (or square feet)

or

Solvent cleaning capacity _____ cubic meters (or cubic feet)

Average monthly solvent consumption _____ kilogram (or pounds)

Three month rolling average emission estimates (attach calculations)	1. _____ kg (or lb)	From _____	To _____
		Date	Date
	2. _____ kg (or lb)	From _____	To _____
		Date	Date
	3. _____ kg (or lb)	From _____	To _____
		Date	Date

Submit completed copies of this report to:
Minnesota Pollution Control Agency
Air Quality Compliance Tracking Coordinator
St. Paul, Minnesota 55155-4194

Signature

Date

7. Control Combination for Batch Vapor Solvent Cleaning Machines

A Solvent/Air Interface Area of 1.21 Square Meters (13 Square Feet) or less			
Options	Control Combinations	Options	Control Combinations
1	Working - mode cover Freeboard ratio of 1.0 Superheated vapor	6	Freeboard refrigeration device Freeboard ratio of 1.0
2	Freeboard refrigeration device Superheated vapor	7	Freeboard refrigeration device Dwell
3	Working - mode cover Freeboard refrigeration device	8	Reduced room draft Dwell Freeboard ratio of 1.0
4	Reduced room draft Freeboard ratio of 1.0 Superheated vapor	9	Freeboard refrigeration device Carbon absorber
5	Reduced room draft Freeboard refrigeration device	10	Freeboard ratio of 1.0 Superheated vapor Carbon absorber
A Solvent/Air Interface Area of More than 1.21 Square Meters (13 Square Feet)			
Options	Control Combinations	Options	Control Combinations
1	Freeboard refrigeration device Freeboard ratio of 1.0 Superheated vapor	5	Freeboard refrigeration device Reduced room draft Superheated vapor
2	Reduced room draft Dwell Freeboard refrigeration device	6	Freeboard refrigeration device Reduced room draft Freeboard ratio of 1.0
3	Working - mode cover Freeboard refrigeration device Superheated vapor	7	Freeboard refrigeration device Superheated vapor Carbon absorber
4	Freeboard ratio of 1.0 Reduced room draft Superheated vapor		

8. Control Combinations for Inline Solvent Cleaning Machines

Existing Inline Machines		New Inline Machines	
Options	Control Combinations	Options	Control Combinations
1	Freeboard ratio of 1.0 Superheated vapor	1	Freeboard refrigeration device Superheated vapor
2	Freeboard ratio of 1.0 Freeboard refrigeration device	2	Freeboard refrigeration device Carbon absorber
3	Dwell Freeboard refrigeration device	3	Superheated vapor Carbon absorber
4	Dwell Carbon absorber		

APPENDIX L: Test of Solvent Cleaning Procedures

Please Circle the correct answer(s) to the below questions.

General Questions:

1. What is the maximum allowable speed for parts entry and removal?
 - A) 8.5 meters per minute (28 feet per minute).
 - B) 3.4 meters per minute (11 feet per minute).
 - C) 11 meters per minute (36 feet per minute).
 - D) No limit.

2. How do you ensure that parts enter and exit the solvent cleaning machine at the speed required in the regulation?
 - A) Program on computerized hoist monitors speed.
 - B) Can judge the speed by looking at it.
 - C) Measure the time it takes the parts to travel a measured distance.

3. Identify the sources of air disturbances.
 - A) Fans
 - B) Open Doors
 - C) Open Windows
 - D) Ventilation vents
 - E) All of the above

4. What are the three operating modes?
 - A) Idling, working and downtime.
 - B) Precleaning, cleaning, and drying
 - C) Startup, shutdown, off
 - D) None of the above

5. When can parts or parts baskets be removed from the solvent cleaning machine?
 - A) When they are clean.
 - B) At any time
 - C) When dripping stops
 - D) Either A or C is correct

6. How must parts be oriented during cleaning?
- A) It does not matter as long as they fit in the parts basket.
 - B) So that the solvent pools in the cavities where the dirt is concentrated.
 - C) So that solvent drains from them freely.
7. During startup, what must be turned on first, the primary condenser or the sump heater?
- A) Primary condenser
 - B) Sump heater
 - C) Turn both on at same time
 - D) Either A or B is correct
8. During shutdown, what must be turned off first, the primary condenser or the sump heater?
- A) Primary condenser
 - B) Sump heater
 - C) Turn both off at same time
 - D) Either A or B is correct
9. In what manner must solvent be added to and removed from the solvent cleaning machine?
- A) With leak proof couplings
 - B) With the end of the pipe in the solvent sump below the liquid solvent machine?
 - C) So long as the solvent does not spill, the method does not matter.
 - D) A and B
10. What must be done with waste solvent and still and sump bottoms?
- A) Pour down the drain.
 - B) Store in closed container
 - C) Store in a bucket
 - D) A or B
11. What type of materials are prohibited from being cleaned in solvent cleaning machines using Halogenated HAP solvents?
- A) Sponges
 - B) Fabrics
 - C) Paper
 - D) All of the above

Control Device Specific Questions: Select the control device for your company and answer the questions to the selected control devices only.

[] **Freeboard Refrigeration Device**

1. What temperature must the Freeboard Refrigeration Device achieve?
- A) Below room temperature
 - B) 50 degrees Fahrenheit

- C) Below the solvent boiling point
- D) 30 percent of the solvent's boiling point

[] **Working-Mode Cover**

2. When can a cover be open?
- A) While parts are in the cleaning machine
 - B) During parts entry and removal
 - C) During maintenance
 - D) During measurements for compliance purposes
 - E) A and C
 - F) B, C and D
3. Covers must be maintained in what condition?
- A) Free of holes
 - B) Free of cracks
 - C) so that they completely seal cleaner opening
 - D) All of the above

[] **Dwell**

4. Where must the parts be held for the appropriate dwell time?
- A) In the vapor zone
 - B) In the freeboard area above the vapor zone
 - C) Above the cleaning machine
 - D) In the immersion sump

Answer Key

General Questions

1. B
2. A or C
3. E
4. A
5. C
6. C
7. A
8. B
9. D
10. B
11. D

Control Device Specific Questions

1. D
2. F
3. D
4. B

APPENDIX M:



MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

MPCA USE ONLY

Date Received:

Staff Reviewer:

Date Reviewed:

12/01/00

COMPLIANCE MANAGEMENT PLAN FOR GENERAL MANUFACTURING PART 70 GENERAL PERMIT

PART I Facility Information

Complete this section of the form only once for your facility

AQ Facility ID No.:

AQ File No.:

Facility Name:

Facility Address:

Reporting Period (the preceding calendar year):

PART II
Facility Terms and Conditions

**Repeat this form as necessary to include all emission units on site
and update as necessary to include new equipment.**

Applicable Emissions Limitations and /or Control Requirements

Specify the operation (s) and/or equipment which constitute this emission unit or group units are listed in the following table along with applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit or group shall not exceed the listed limitations, and the listed control measures shall be employed.

EU or SV	Operations and/or Equipment	Applicable Rules / Requirements	Applicable Emissions Limitations/Control Measures	Monitoring, Record Keeping and/ or Testing
EU 100				

EU or SV	Operations and/or Equipment	Applicable Rules / Requirements	Applicable Emissions Limitations/Control Measures	Monitoring, Record Keeping and/ or Testing

APPENDIX N



MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

GENERAL PERMIT FORM **GP-01** **AIR EMISSION GENERAL PERMIT** **ADMINISTRATIVE CHANGES**

12/2000

Use this document to identify administrative changes that have occurred at your facility and to notify the Minnesota Pollution Control Agency to update your records. Complete all of the information in the first box. Only complete the boxes that have changed. Mark "no change" in the box if there are no changes.

1. Who can we call if we have questions about the information completed on this document?

NAME: _____ PHONE: _____

FACILITY NAME: _____

FACILITY PERMIT NUMBER: _____

2. Mailing address for the facility.

☐ No change in mailing address

NEW FACILITY MAILING ADDRESS:

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

FACILITY NAME: _____

3. Permit contact name, telephone number, billing contact name.

☐ NO CHANGE IN CONTACT NAMES OR NUMBERS

NEW PERMIT CONTACT NAME: _____ TITLE: _____

NEW PHONE NUMBER: _____ NEW FAX NUMBER: _____

NEW BILLING CONTACT NAME: _____

NEW PHONE NUMBER: _____ NEW FAX NUMBER: _____

4. Name of the Facility.

☐ NO CHANGE IN FACILITY NAME

PREVIOUS FACILITY NAME: _____

NEW FACILITY NAME: _____

5. Change in Ownership.

☐ NO CHANGE IN OWNERSHIP

1. FACILITY PERMIT NUMBER: _____

2. FACILITY NAME: _____

3. FACILITY LOCATION:

STREET ADDRESS: _____

CITY: _____ MN ZIP CODE: _____ COUNTY: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

4. CORPORATE/COMPANY OWNERSHIP:

PREVIOUS CORPORATE/COMPANY NAME: _____

NEW CORPORATE/COMPANY NAME: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

5. LEGALLY RESPONSIBLE OFFICIAL FOR THIS PERMIT/FACILITY:

MR/MS: _____ PHONE: _____

TITLE: _____ FAX: _____

MAILING ADDRESS (CHECK ONE):

☐ CORPORATE/COMPANY OWNER ☐ FACILITY MAILING ☐ FACILITY STREET

☐ OTHER (SPECIFY): _____

6. CONTACT PERSON FOR THIS PERMIT:

MR/MS: _____ PHONE: _____

TITLE: _____ FAX: _____

MAILING ADDRESS (CHECK ONE):

☐ CORPORATE/COMPANY OWNER ☐ FACILITY MAILING ☐ FACILITY STREET

☐ OTHER (SPECIFY): _____

CONTINUED ON NEXT PAGE

5. Change in Ownership, continued

7. ALL BILLINGS FOR ANNUAL FEES SHOULD BE ADDRESSED TO:

MR/MS: _____ PHONE: _____

TITLE: _____ FAX: _____

MAILING ADDRESS (CHECK ONE):

☐ CORPORATE/COMPANY OWNER ☐ FACILITY MAILING ☐ FACILITY STREET

☐ OTHER (SPECIFY): _____

CERTIFICATION:

I am applying for change of ownership/operational control. I am willing to comply with the terms of the existing permit.

Person certifying this permit application:

MR./MS. _____

TITLE: _____

PHONE: _____ FAX: _____

SIGNATURE: _____ DATE: _____

DATE TRANSFER OF OWNERSHIP OCCURRED: _____

Has the facility moved to a different location since the permit was issued?

If yes, obtain the appropriate permit application forms. A facility is required to apply for a new permit when it moves to a different location. The permit at the previous location should be voided by completing form VR-01, Request to Void an Air Emission Permit.

Does the facility continue to qualify for the permit that is currently issued?

If not, obtain the appropriate air emission permit application forms. A facility is required to apply for the appropriate permit when it no longer qualifies for the current permit.

You can receive copies of the forms mentioned in this document:

- Download from the Minnesota Pollution Control Agency WEB site - www.pca.state.mn.us
- Call the Document Coordinator at (651) 282-5843 and ask for the appropriate forms.

Return this document if any of the above administrative changes have been made:

Permit Technical Advisor
Air Quality
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155

Please do not return this document if none of the above administrative changes have been made.

The Minnesota Pollution Control Agency appreciates your efforts in providing up-to-date information about your Facility. If you have any questions, please feel free to contact the MPCA Customer Assistance Center at (651) 282-5844 or 1-800-646-6247.

The Small Business Assistance Program staff is available to help small businesses (100 employees or less) with any questions about air emission permits. Staff can be reached by calling (651) 282-6143 or 1-800-657-3938.

TECHNICAL SUPPORT DOCUMENT

FOR

REISSUANCE OF

THE GENERAL PART 70 AIR EMISSION PERMIT

FOR CLEANING, PAINTING/COATING, CUTTING, GRINDING, BLASTING,

WELDING, BRAZING, SOLDERING, AND FOSSIL FUEL COMBUSTION

STATIONARY SOURCES WITH OR WITHOUT POLLUTION CONTROL

EQUIPMENT FOR ATTAINMENT AND NON-ATTAINMENT AREA

December 01, 2000

Author: ASO

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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 cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary sources with or without pollution control equipment.

This document presents the technical support information for the development and reissuance of a general permit for these sources. This general permit is a Part 70 permit for cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary 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) and less than 100 tons per year for all other criteria pollutants. The criteria pollutants are 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.

Author: ASO

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 for cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary 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 Cleaning, Painting/Coating, Cutting, Grinding, Blasting, Welding, Brazing, Soldering, and Fossil Fuel Combustion Stationary Sources With or Without Pollution Control Equipment

The overall permitting approach for cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary sources with or without pollution control equipment includes the issuance of individual and general permits. This general permit is for new and existing cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary sources with or without pollution control equipment with PTE limited to less than 250 tpy of VOC and less than 100 tpy for each other criteria pollutant after accounting for the effects of all pollution control equipment from all processes with pollution control equipment for all appropriate criteria 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 cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary sources with or without pollution control equipment limits the PTE VOCs to less than 250 tpy and limits PM₁₀ 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.

Prevention of Significant Deterioration (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, 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 Minn. R. 7007.1100, subps. 1 and 5 requirements, the following four general criteria need to 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 cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion 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 cleaning, painting/coating, cutting, grinding, welding, brazing, soldering and fossil fuel combustion 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 booths, degreasers, cleaning of surfaces, abrasive blasting, acid cleaning surfaces, fuel storage, boilers, catalytic and thermal oxidizers, baghouses, fabric filters, wall filters, water wash paint booths, generators (internal combustion engines), burnoff ovens, furnaces, space heaters, dip tanks, ovens, soldering, welding, brazing, engine testing, screen printing, stenciling, and storage tanks. **If a stationary source has process operations or emission units not listed above and that are not insignificant activities (listed in Minn. R. 7007.1300), 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. The insignificant activities listed in Minn. R. 7007.1300, subp. 4, are required to be listed in the permit application and the calculation of emissions from these activities shall be provided in the application for this general permit. Stationary sources with emission units subject to any New Source Performance Standards other than 40 CFR pt. 60, subp. Kb, subp. Dc, and subp. JJ are not eligible to use this general permit. Any stationary source with an emission unit(s) subject to a National Emission Standards for Hazardous Air Pollutants (NESHAP) other than the NESHAP for internal combustion engines, industrial boilers, institutional/commercial boilers, process heaters, halogenated solvent cleaners, miscellaneous metal parts and products for surface coating, engine test facilities, and paint stripper users in 40 CFR pt. 63, is not eligible for this general permit. A stationary source is not eligible for this general permit if it is subject to a case-by-case maximum achievable control technology standards (MACT) determination under section 112(g) of the Clean Air Act.

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 efficiency of 92 percent. The control device must be listed under Minn. R. 7011.0070 and the general permit requires the Permittee to comply with the 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 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 potential to emit (PTE) limited to less than 250 tpy of VOCs and limited to less than 100 tpy of PM₁₀ after control and less than 100 tpy for all other criteria pollutants. The basis for this restriction is so that stationary sources are able to make design and operational changes without being subject to NSR for Nonattainment Areas and 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 cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion 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 in 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 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, 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 record keeping provisions to track compliance with these permit conditions are also included.

A cap on the PTE for PM₁₀ from these sources would require the stationary source owner or operator to use at least 92 percent efficient particulate control devices to control PM₁₀ emissions. Monitoring and record keeping 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 record keeping 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. In addition, stationary sources subject to NSPS that have not conducted the performance testing and reporting requirements required by 40 CFR pt. 60, subp. 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. 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 249 tpy for VOCs and 99 tpy for all other criteria pollutants,
- requiring all NSPS requirements to be met for new equipment, if applicable, except that fuel monitoring will not be required because diesel fuel is not available in Minnesota with a sulfur content above 0.5 percent sulfur. See EPA's Memorandum dated February 20, 1992, "Request for Determination Regarding the Daily Fuel Usage Monitoring Requirements in 40 CFR pt. 60, subp. Dc". This memo gave the States delegation to waive the fuel monitoring for steam generating units that burn only natural gas or only low sulfur (less than 0.5 weight percent) distillate oil.
- 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 standards for Hazardous Air Pollutants (HAPs) 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 stationary source 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 HAPs or 25 tpy of combined HAPs as provided in 40 CFR 63. If stationary sources trigger these thresholds, they may be subject to these requirements. In addition, some NESHAPS apply to stationary source with PTE less than 10 or 25 tpy of HAPs emissions.

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 includes internal combustion engines, industrial boilers, institutional/commercial boilers, process heaters, halogenated solvent cleaners, miscellaneous metal parts and products for surface coating, engine test facilities, paint stripper users and modified major sources under section 112(g) of the Clean Air Act.

The NESHAP for internal combustion engines, industrial boilers, institutional/commercial boilers, process heaters, miscellaneous metal parts and products for surface coating, engine test facilities, and paint stripper users may be applicable to these types of stationary sources, and the requirements will be addressed in the permit. The MPCA will amend the permit if necessary, when EPA finalizes these rules.

The date of the adopted standards for halogenated solvent cleaners was December 2, 1994.

The NESHAP for halogenated solvent cleaners apply to cleaners which use these regulated solvents: trichloroethylene; 1,1,1-trichloroethane; methylene chloride; perchloroethylene; carbon tetrachloride; and chloroform. The final rule defines emission control requirements for four types of equipment:

- New and existing small batch vapor cleaning machines (air/solvent interface $< 1.21 \text{ m}^2$ [13.0 ft^2])
- New and existing large batch vapor cleaning machines (interface $> 1.21 \text{ m}^2$)
- All new and existing in-line (continuous) cleaning machines
- All batch cold cleaning machines

Existing equipment must comply with standards by December 2, 1997. New equipment is defined as any equipment with construction or reconstruction beginning after November 29, 1993. New equipment must achieve compliance immediately upon start-up, or by December 2, 1994, whichever is later. Switching to cleaning methods not using halogenated solvents removes those operations from coverage by these rules. Stationary sources who are subject to these requirements must comply with these rules.

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 63.40 through 63.44) by itself and has a potential to emit of 10/25 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 can not be used; instead, the stationary source would have to apply for an individual Part 70 permit.

Other NESHAPS requirements are provided in 40 CFR 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 68 and section 112(r). 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. Cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion 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 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 NSR requirements of the nonattainment area program do not apply.

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 51 and 52. The stationary sources eligible for this general permit are not 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.

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 cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion 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
Cold Cleaning Machine Operations	Subp. JJ (Proposed)	

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 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 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 that a maximum opacity of 40 percent may occur for two minutes in any 60-minute period. 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 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.

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 record keeping requirements.

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).

Cold Cleaning Machine Operations - The NSPS for Cold Cleaning Machine Operations may be applicable to these types of stationary sources, and the requirements will be addressed in the permit. The MPCA will amend the permit if necessary when EPA finalizes the rule.

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 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 reissuance of the Part 70 general permit.

A CAM plan was established for this general permit. The general permit includes the provisions that require the Permittee to comply with CAM requirements. If the Permittee objectives to CAM plan in the permit application, the Permittee may elect to 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 record keeping and reporting requirements that each Title V permit must contain. One important element of the monitoring, record keeping, 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.

Under Minn. R. 7007.0800, subp. 4, the MPCA will require 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. To achieve this objective, the MPCA staff considered all the relevant factors approved by EPA on periodic monitoring requirements for permitted sources.

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

1. The likelihood of violating the applicable requirements;
2. Whether add-on controls are necessary to meet the emission limit;
3. The variability of emissions over time;
4. The type of monitoring, process, maintenance, or control equipment data already available;
5. The technical and economic considerations associated with the range of possible monitoring methods; and
6. The type of monitoring found on similar emission units.

The requirements are incorporated 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 December 2000, 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 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.

3.3.11 Tank Vessel Standards

Tank vessel standards requirements are provided in the 1990 CAAA, Section 183(f). As of December 2000, 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 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.

3.3.12 Environmental Review

If the stationary source is new and will have potential emissions of 100 tpy or more after control of any single criteria pollutant, review by the Environmental Quality Board is required. This permit applies to new and existing stationary sources. An environmental review is required for a new source and a modification with potential emissions greater than or equal to 100 tpy of any single criteria pollutant. Stationary sources who have done modifications with potential emissions totaling greater than 100 tpy after control of any single criteria pollutant shall determine whether an environmental review is required. If an environmental review is required, it must be completed prior to receiving the permit and before commencement of construction of the new stationary source or of the modification that puts the total potential increase over 100 tpy. If a company does an air toxics review during an environmental review 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	This form is simplified to include the required information.
(CD) COMPLIANCE DATA FORMS		
CD-01	Compliance Plan	Required information put in permit.
CD-03	Compliance Schedule	Required information put in permit.
(EC) EMISSION CALCULATIONS FORMS		Removed the forms that do not apply.
(ME) MONITORING EQUIPMENT FORMS		Not covered by general permit.
(MOD) MODIFICATION FORMS		Not covered by general permit.
(MI) MODELING INFORMATION FORMS		Not covered by general permit.

6.0 PTE

6.1 Overview

Criteria pollutants emitted from processes at cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary sources with or without pollution control equipment are summarized in Table 6.1.

Table 6.1

Sources	PM	PM₁₀	SO₂	NO_x	VOC	CO	Pb	HAP
Spray Painting	X	X			X			X
Coating	X	X			X			X
Cleaning					X			X
Storage Tanks					X			X
Abrasive Blasting	X	X						
Cutting	X	X						X
Grinding	X	X						X
Welding	X	X						X
Brazing	X	X						X
Soldering	X	X						X
Engine Testing	X	X	X	X	X	X		X
Fuel Combustion (Natural Gas, Distillate Oil, LPG, Gasoline)	X	X	X	X	X	X	---	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 record keeping of the amount of VOC materials used. Limiting emission levels of 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 PM₁₀ emissions from cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary sources with or without pollution control equipment will not exceed 100 tpy. The emission limitations for cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, and fossil fuel combustion stationary sources with or without pollution control equipment 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) 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 of the PSD or nonattainment area program.

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) 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) Fourth Edition, through Supplement F and "AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants" are shown in Table 6.2 and Table 6.3.

Table 6.2

Industrial Indirect Heating Sources				
Emission Factor				
Pollutant	Natural Gas (lb/MMft³)	LPG - Butane (lb/1000 gal)	LPG - Propane (lb/1000 gal)	Distillate Oil (lb/1000gal)
PM ₁₀	13.7	0.6	0.6	2
SO _x	0.6	0.09S	0.10S	144S
NO _x	140	21	19	25
VOC	2.784	0.6	0.5	0.2
CO	35	3.6	3.2	5
Pb	-	-	-	-

Table 6.3

Industrial Reciprocating Internal Combustion Engines			
Emission Factors			
Pollutant	Natural Gas (lb/MMft³)	Distillate Oil (Diesel) (lb/1000 gal)	Gasoline (lb/1000 gal)
PM ₁₀	10.0	32.0	6.2
SO _x	0.6	31.2	5.31
NO _x	3400.0	469.0	102.0
VOC	82.9	32.1	147.7
CO	430.0	102.0	3940.0
Pb	-	-	-

Notes:

- (1) PM₁₀ = Particulate Matter less than 10 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
- (2) Natural Gas heating value is 1050 Btu/standard cubic foot.
LPG heating value is 94,000 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 gr/1000 cubic foot gas vapor. S is assumed to be 15 grams/100 cubic feet gas vapor which is equivalent to 0.02 percent sulfur by weight.

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 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 99 tpy on a 12-month rolling sum using the following equations:

$$\begin{aligned} \text{NO}_x \text{ (or CO)} &\leq 99 \text{ tons/year} \\ \text{NO}_x \text{ (or CO)} &= 0.0005 \times [(\text{EF} \times \text{Q})_{\text{ng}} + (\text{EF} \times \text{Q})_{\text{lpgb}} + (\text{EF} \times \text{Q})_{\text{lpgp}} + (\text{EF} \times \text{Q})_{\text{do}}]_{\text{iht}} \text{ lb/yr} \\ &\quad + [(\text{EF} \times \text{Q})_{\text{ng}} + (\text{EF} \times \text{Q})_{\text{do}} + (\text{EF} \times \text{Q})_{\text{g}}]_{\text{rice}} \text{ lb/year} \end{aligned}$$

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
- 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 ₁₀	9.7	2.8	3.1	9.5
SO _x	0.42	6.4	7.8	3.6
NO _x	99	99	99	99
VOC	2	2.8	2.6	0.99
CO	43	17	17	25
Pb	---	---	---	---

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

Table 6.5

	Reciprocating Internal Combustion Engines PTE (tpy)		
Pollutant	Natural Gas	Distillate Oil	Gasoline
PM ₁₀	0.29	7.0	0.16
SO _x	0.017	6.5	0.13
NO _x	99	99	2.6
VOC	2.4	8.1	4.8
CO	12	21	99
Pb	---	---	---

6.3 Limiting Particulate Emissions

Limiting emission levels of PM₁₀ to a potential of less than 100 tpy is accomplished by requiring limitations on operations such that the total PM₁₀ emissions from fuel combustion sources plus PM₁₀ emissions from all other processes including painting/coating, cutting, grinding, abrasive blasting, welding, brazing, and soldering processes do not exceed 99 tpy. Particulate emissions from combustion will not exceed 9.0 tpy, and emissions from all other processes will not exceed 90.0 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. 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 PM₁₀ emissions to account for the actual emissions. The record keeping provisions and methods of calculation would be addressed in the application and permit package.

Guidelines on how to calculate PM₁₀ emissions from painting/coating operations will be provided in the permit application package.

Emissions factors for PM₁₀ emissions from abrasive blasting obtained from Volume I of STAPPA-ALAPCO " Air Quality Permits" are given in Table 6.6.

Table 6.6

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM₁₀ / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	0.010

To demonstrate that PM₁₀ emissions are less than 100 tpy based on a 12-month rolling sum (PM₁₀ < or = 99 tpy).

$$PM_{10} \text{ PTE} \leq \left[\left(P_c \times t_1 \times \left((100 - \% \text{control}) / 100 \right) \right) + \left(P_d \times t_2 \times \left((100 - \% \text{control}) / 100 \right) \right) \right] \times 0.0005 + 9.2$$

where:

- P_c = particulate emissions from the painting/coating, lbs/month
- t₁ = annual operating hours of the painting/coating operation, month/yr
- % control = control efficiency of the particulate control equipment at 92% or greater with 100% capture
- P_d = particulate emissions from abrasive blasting, lbs/month
- t₂ = annual operating hours of the abrasive blasting operation, month/yr
- 0.0005 = conversion factor, ton/lb
- 9.2 = 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 8.0 tpy (see section 6.2.2) 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 241.0 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 241.0 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 record keeping 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 249 tpy based on a 12-month rolling sum (VOC < or = 249 tpy).

$$\text{VOC PTE} \leq \left[\left(\sum A_i V_i \right) + \left(\sum B_i Z_i \right) \times \frac{12}{2000} \right] \times ((100 - \% \text{ control}) / 100) + C_1 (0.0005) + 8.0$$

where:

- 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_i = amount of VOC containing materials used for cleaning as purchased, lb/month
- Z_i = percent of VOC in B_i as purchased, % wt
- % control = control efficiency of the VOC control equipment
- C_1 = VOC emission from the storage tanks, lb/yr
- 8.0 = VOC emissions from fuel combustion sources, ton/yr
- 0.0005 = conversion factor, ton/lb

6.5 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.