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| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | CAP-GI-09I  Requirements: State Rules  Air Quality Permit Program  Doc Type: Permit Application |

**Facility Information–Minnesota State Air Quality (AQ) Rules**

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| --- | --- | --- | --- | --- |
| AQ Facility ID number: | |  | Agency Interest ID number: |  |
| Facility name: |  | | | |

Some businesses and activities in Minnesota are subject to the following rules. Read each question to determine if the rule applies to you.

**1)** **Minnesota Standards of Performance for Stationary Sources** (Minn. R. ch. 7011)

1a) Does your facility have any equipment that meets the following definition?

"A furnace, boiler or other combustion equipment in Minnesota which burns fossil fuel for the purpose of producing steam, hot water, hot air, or other hot liquid, gas, or solid, where the smoke doesn't have direct contact with the heated medium for which another standard of performance has not been promulgated."

No, my facility **is not** subject to Minn. R. 7011.0500-7011.0551. Go to question 1b.

Yes, my facility **is** subject to Minn. R. 7011.0500-7011.0551. Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment. (Read the rule to determine the specific requirements that apply to your facility.)

1b) Is your facility type or process equipment found in Table H on page 3? This table contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference.

No, none of the Minnesota Rules listed in Table H apply to my facility. Go to question 2.

Yes, my facility or process equipment may be subject to the rule associated with it in Table H. Read the associated rule to see if it applies.

1c) After reading through Table H and any rule that may apply to your facility or equipment, list the ones that do apply to your air emission source(s) below. Again, Table H contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference. You do not need to list the state rule that incorporates a federal rule by reference. You do not need to list the Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment again, if it applies (see 1a, above).

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| **Minnesota Rule Part that Applies** | **What the Rule Part Applies to  (Whole facility or Specific Piece of Equipment)** | **Emission Unit  ID Number** |
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**3)** **Standards of Performance for Industrial Process Equipment** (Minn. R. 7011.0700 - 7011.0735)

3a) Do you have any industrial process equipment on-site that is not regulated by another Standard of Performance (NSPS or MN Rules Standard of Performance)?

No, my equipment is not subject to this rule. Go to question 4**.**

Yes. Go to 3b.

3b) **Opacity Standard**

(Note: Opacity is a measure of visible emissions or how much of the view is obscured by stack emissions. The emissions causing opacity are often smoke or dust.)

For industrial process equipment which was *in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity, except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60 minute period.

For industrial process equipment which was *not in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity.

3c) Does the industrial process equipment have particulate control equipment with a collection efficiency of at least 99 percent if it was in operation before July 9, 1969, or 99.7 percent if it was not in operation before July 9, 1969?

No. Go to question 3d.

Yes. My equipment is not subject to the remaining requirements of this rule. Go to question 4**.**

3d) Is the industrial process equipment located outside of the seven county Minneapolis-St. Paul metropolitan region **and** outside of the city of Duluth **and** at least 1/4 mile from any residence or public roadway, **and** does the industrial process equipment have particulate control equipment with a collection efficiency of at least 85 percent **and** is the operation of the entire facility in compliance with all ambient air quality standards?

No, my equipment is subject to the remaining requirements. You can determine applicable limits using Table I.

Yes, my equipment is not subject to the remaining requirements of this rule. Go to question 4.

**4)** Return to Form CAP-GI-09, question 6b.

**Table H: Minnesota Standards of Performance for Stationary Sources \***

|  |  |
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| **Facility or Equipment Type** | **Associated Minnesota Rule** |
| Direct Heating Equipment | 7011.0600 through 7011.0625 |
| Concrete Manufacturing Plants | 7011.0850 through 7011.0860 |
| Stage One Vapor Recovery | 7011.0865 through 7011.0870 |
| Hot Mix Asphalt Plants | 7011.0900 through 7011 0925 |
| Bulk Agricultural Commodity Facilities (Grain Elevators) | 7011.1000 through 7011.1015 |
| Coal Handling Facilities | 7011.1100 through 7011.1140 |
| Incinerators (waste combustors) | 7011.1201 through 7011.1285 |
| Sewage Sludge Incinerators | 7011.1300 through 7011.1325 |
| Petroleum Refineries | 7011.1400 through 7011.1430 |
| Liquid Petroleum and Volatile Organic Compounds (VOCs) Storage Vessels | 7011.1500 through 7011.1515 |
| Sulfuric Acid Plants | 7011.1600 through 7011.1630 |
| Nitric Acid Plants | 7011.1700 through 7011.1725 |
| Brass and Bronze Plants | 7011.1900 through 7011.1915 |
| Iron and Steel Plants | 7011.2000 through 7011.2015 |
| Inorganic Fibrous Materials | 7011.2100 through 7011.2105 |
| Stationary Internal Combustion Engine (Generators) | 7011.2300 |
| Municipal Solid Waste Landfills | 7011.3500 through 7011.3510 |
| Asbestos | 7011.9921 through 701109927 |

\* This table does **not** include Minnesota Rules which incorporate federal New Source Performance Standards (NSPS) and/or National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) by reference.

**Table I: Instructions for determining your particulate limit**

Minnesota has a State rule for the concentration of particulate matter that may be in your exhaust stream. The unit of the standard is grains per dry standard cubic foot. You need to convert your actual exhaust flow to dry standard cubic feet per minute to find the emission limit from the rule.

Sources subject to this rule are required to meet the emission limits established at all times. These limits will vary depending on operating conditions. To determine compliance at any point in time (i.e. for a stack test), follow the steps below:

1. Determine the amount of dry material (subtract any water or moisture content) in pounds per hour that is processed by your equipment.

2. Use Table I.1 to determine your allowed emission rate based on process weight rate. If your process weight rate falls between two values on the table, interpolate or extrapolate using the equation:

 for P < 60,000 lbs/hour; and:

 for P > 60,000 lbs/hour

where:

E = emission rate in lbs/hour; and

P = process weight rate in lbs/hour

3. If your process equipment is vented to the atmosphere, determine the airflow through your stack. Correct to 68 F and 14.7 psi, and correct to remove any moisture in the gas stream to obtain the air flow in dry standard cubic feet per minute (dscfm).

4. Use Table I.2 to determine your allowed concentration in grains per dry standard cubic foot (gr/dscf). Interpolate using the equation for airflow rates between 7,000 dscfm and 1,000,000 dscfm:

where:

c = concentration in gr/dscf,

FRcorrected = gas volume in dscfm

5. Determine which of the two emission rates calculated above is *less stringent*. To convert a concentration (calculated in step 4) to an emission rate (calculated in step 2), use the following equation:



where:

E = emission rate in lbs/hour;

c = concentration in gr/dscf,

V = gas volume in dscfm

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| **Table I.1** | | **Table I.2** | |
| **Process Rate (lbs/hour)** | **Emission Rate (lbs/hour)** | **Source Gas Volume (dscfm)** | **Concentration (gr/dscf)** |
| 100 | 0.55 | 7,000 or less | 0.100 |
| 500 | 1.53 | 8,000 | 0.096 |
| 1,000 | 2.25 | 9,000 | 0.092 |
| 5,000 | 6.34 | 10,000 | 0.089 |
| 10,000 | 9.73 | 20,000 | 0.071 |
| 20,000 | 14.99 | 30,000 | 0.062 |
| 60,000 | 29.60 | 40,000 | 0.057 |
| 80,000 | 31.19 | 50,000 | 0.053 |
| 120,000 | 33.28 | 60,000 | 0.050 |
| 160,000 | 34.85 | 80,000 | 0.045 |
| 200,000 | 36.11 | 100,000 | 0.042 |
| 400,000 | 40.35 | 120,000 | 0.040 |
| 1,000,000 | 46.72 | 140,000 | 0.038 |
|  |  | 160,000 | 0.036 |
|  |  | 180,000 | 0.035 |
|  |  | 200,000 | 0.034 |
|  |  | 300,000 | 0.030 |
|  |  | 400,000 | 0.027 |
|  |  | 500,000 | 0.025 |
|  |  | 600,000 | 0.024 |
|  |  | 800,000 | 0.021 |
|  |  | 1,000,000 or more | 0.020 |

Regardless of the allowable emission rates calculated from Tables I.1 and I.2, no process equipment is allowed to emit more than 0.30 grains per standard cubic foot of exhaust gas.