|  |  |
| --- | --- |
| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | MG-09I  Part 70 Manufacturing General Permit  requirements: state rules  Air Quality Permit Program  *Doc Type: Permit Application* |

**Refer to the *Handbook and application instructions* for the Part 70 Manufacturing General Permit for form instructions.**

## **Facility information**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **a)** AQ Facility ID number: | |  | **b)** Agency Interest ID number: |  |
| **c)** Facility name: |  | | | |

## **Applicable requirement determination**

**1) Minnesota air pollution episodes (Minn. R. 7009.1000-7009.1110)**

1a) After your facility is permitted, will your facility be allowed to emit more than 250 tons per year of any one of the following pollutants: particulate matter, sulfur dioxide, nitrogen oxides, ozone [volatile organic compounds], carbon monoxide, or non-methane hydrocarbons?

Yes, my facility is subject to the Minn. R. 7009.1000-7009.1110. (Do not select this option. This general permit has limits keeping your allowable emissions of each of these pollutants below 250 tons per year.)

No, my facility is not subject to the Minn. R. 7009.1000-7009.1110; go to question 2

**2) Minnesota standards of performance for stationary sources (Minn. R. ch. 7011)**

2a) 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."

Yes, my facility **is** subject to Minn. R. 7011.0500-7011.0551 Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment. **List the units subject to this rule in Table I-1 below.**

Read the rule to determine the specific requirements that apply to each subject unit (“new” or “existing” as defined in the rule). Then go on to question 2b.

No, my facility **is not** subject to Minn. R. 7011.0500-7011.0551. Go to question 2b.

2b) Is your facility type or process equipment found in Table I-3? This table contains only state-specific requirements; it does not include state rules that incorporate federal rules by reference.

Yes, my facility or process equipment may be subject to the rule associated with it in Table I-3. Read the associated rule to see if it applies. Then go to item 2c.

No, none of the Minnesota Rules listed in Table I-3 apply to my facility. Go to question 3.

2c) After reading through question 2a, Table I-3, and any rule that may apply to your facility or equipment, list the Minnesota standards that do apply to your air emission source(s) in Table I-1 below.

Again, Table I-3 includes only state-specific requirements; it does not include state rules that incorporate federal rules by reference. You do not need to list state rules that incorporate federal rules by reference.

**Table I-1: Equipment subject to Minnesota standards of performance**

|  |  |  |
| --- | --- | --- |
| **EQUI ID number** | **Minnesota rule part that applies** | **What the rule part applies to**  **(Whole facility or specific piece of equipment)** |
|  |  |  |
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|  |  |  |

***(Duplicate this table as needed)***

**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 any other Standard of Performance (NSPS or MN Rules Standard of Performance)? **If you have any equipment/emission source that is *not* listed in Table I-1 above or is subject to NSPSs *other* than those on Form MG-09D question 1, then the answer to this question is Yes.**

Yes. Equipment not regulated by another Minnesota Standard of Performance or NSPS is subject to the Industrial Process Equipment Rule. List these individual units in Table I-2, indicating whether the equipment was or was not in operation before July 9, 1969. Then go to item 3b.

No, my equipment is not subject to this rule; skip to item 5**.**

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.

Go to 3c.

3c) For each emission unit you listed in Table I-2, indicate whether or not it was in operation before July 9, 1969.

For those units which were in operation before July 9, 1969:

If the unit is controlled by control equipment which is at least 99% efficient, complete Table I-2 by checking the box labeled “Collection Efficiency > 99%.” These units are considered to be in compliance with the remaining requirements of this rule.

Are there units listed in Table I-2 for which you are not able to check “Collection Efficiency > 99%” (either because they were not in operation before July 9, 1969, or because they are not controlled with a collection efficiency greater than 99%)?

Yes; go to question 3d.

No, all units listed in Table I-2 are considered to be in compliance due to the collection efficiency of the control equipment they have; skip to item 5.

3d) Has it been demonstrated that the operation of the entire facility in compliance with all ambient air quality standards? This is typically shown through some level of computer dispersion modeling

Yes. Go to question 3e.

No. Skip to item 3i.

3e) Is the facility located outside of the seven county Minneapolis-St. Paul metropolitan region?

Yes. Go to question 3f

No. Skip to item 3i.

3f) Is the facility located outside of the city of Duluth?

Yes. Go to question 3g.

No. Skip to item 3i.

3g) Is the facility located at least 1/4 mile from any residence or public roadway?

Yes. Go to question 3h.

No. Skip to item 3i.

3h) Answer this question individually for each remaining unit listed in Table I-2 (those which were not identified in question 3c as being controlled by control equipment having a control efficiency of 99% (as applicable)). Does the industrial process equipment have particulate control equipment with a collection efficiency of at least 85%?

Yes, the unit is considered to be in compliance with the remaining requirements of this rule. For each unit for which you can answer “yes” to question 3h, complete Table I-2 by checking the box labeled “Outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%.”

No. For each unit for which you answered “No” to question 3h, complete Table I-2 as described in item 3i.

3i) Complete Table I-2 for all remaining industrial process equipment listed:

* Those existing units not identified in question 3c as being controlled by control equipment having a control efficiency of 99%
* Those not identified in question 3h as being “outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%”

Use Table I-4 to determine the particulate limit in either pounds per hour (lb/hr) or grains per dry standard cubic foot (gr/dscf). Then go to item 5 (follows Table I-2).

**Table I-2: Equipment subject to industrial process equipment rule**

|  |  |  |
| --- | --- | --- |
| **Equipment subject to industrial process equipment rule**  **(list EQUI ID No(s))** | | **Applicable particulate limit** |
|  | In operation before July 9, 1969  Not in operation before July 9, 1969 | Collection Efficiency > 99%  Outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%        gr/dscr        lb/hr |
|  | In operation before July 9, 1969  Not in operation before July 9, 1969 | Collection Efficiency > 99%  Outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%        gr/dscr        lb/hr |
|  | In operation before July 9, 1969  Not in operation before July 9, 1969 | Collection Efficiency > 99%  Outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%        gr/dscr        lb/hr |
|  | In operation before July 9, 1969  Not in operation before July 9, 1969 | Collection Efficiency > 99%  Outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%        gr/dscr        lb/hr |
|  | In operation before July 9, 1969  Not in operation before July 9, 1969 | Collection Efficiency > 99%  Outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%        gr/dscr        lb/hr |
|  | In operation before July 9, 1969  Not in operation before July 9, 1969 | Collection Efficiency > 99%  Outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%        gr/dscr        lb/hr |
|  | In operation before July 9, 1969  Not in operation before July 9, 1969 | Collection Efficiency > 99%  Outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%        gr/dscr        lb/hr |
|  | In operation before July 9, 1969  Not in operation before July 9, 1969 | Collection Efficiency > 99%  Outside MSP & Duluth, ¼ mile from roads/residences, collection efficiency > 85%        gr/dscr        lb/hr |

**4) Return to Form MG-09, item 9b.**

**Table I-3: Minnesota standards of performance for stationary sources \***

|  |  |
| --- | --- |
| **Facility or equipment type** | **Associated Minnesota Rule** |
| Direct Heating Equipment | 7011.0600 through 7011.0625 |
| Concrete Manufacturing Plants | 7011.0850 through 7011.0865 |
| Stage One Vapor Recovery | 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 VOC 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 7011.3505 |
| Asbestos | 7011.9921 through 7011.9927 |

*\* This table does NOT include Minnesota Rules which incorporate federal NSPS and/or NESHAP by reference.*

**Table I-4: 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-4.1 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-4.2 to determine your allowed concentration in grains per dry standard cubic foot (gr/dscf). Interpolate using the equation:



where:

c = concentration in gr/dscf,

V = 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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table I-4.1: Allowed emission rate based on process weight rate** | |  | **Table I-4.2: Allowed concentration** | |
| **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-4.1 and I-4.2, no process equipment is allowed to emit more than 0.30 grains per standard cubic foot of exhaust gas.**