

NONMETALLIC MINERAL PROCESSING

AIR EMISSION GENERAL PERMIT NO. <Permit Number>

ISSUED TO

<Permittee's Name>

<Permittee's Address>

<City, State Zip>

This general permit authorizes the Permittee to construct, modify, and operate nonmetallic mineral processing stationary sources at multiple locations in Minnesota under the conditions set forth herein as long as all conditions of this general permit are always met at each stationary source covered by the Permittee's general permit. (Portable crushing spreads or aggregate processing plants in some situations may be stationary sources themselves, or in other situations parts of another stationary source.) If the construction, modification, or operation of a nonmetallic mineral processing stationary source by the Permittee would not comply with all conditions of this general permit, the Permittee must apply for and obtain an individual part 70, state, or registration permit before beginning the actual construction, modification, or operation of the stationary source that would not comply with all conditions of this general permit. The Permittee must also comply with all general conditions listed in Minn. R. 7007.0800, subp. 16. Terms used in this general permit are as defined in the state air quality rules unless the term is explicitly defined in this general permit.

Permit Type: State, General

Issue Date:

Expiration: Nonexpiring
Title I Conditions do not expire

Manager
Majors and Remediation Division

for

Commissioner
Minnesota Pollution Control Agency

JP:lao

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NOTICE TO THE PERMITTEE:

In addition to being subject to the Minnesota Pollution Control Agency's (MPCA) air quality program your nonmetallic mineral processing stationary source(s) 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	(612)296-6300
Outside Metro Area	1-800-657-3864
TTY	(612)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 general permit shall be deemed compliance with any applicable requirements as of the date of permit issuance. The shield shall only have legal effect if:

1. The specific provision of the applicable requirement is identified in the general permit as the basis of permit conditions, or
2. This general permit specifically identifies a requirement as not applicable.

The permit shield is not provided to the following applicable requirements:

1. Any national ambient air quality standards adopted under section 109 of the Clean Air Act or increment or visibility under part C of title I of the Clean Air Act,
2. Any state ambient air quality standard under Minn. R. ch. 7009, or
3. The state noise pollution control rules, Minn. R. ch. 7030.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Table A contains the limits and other requirements with which your nonmetallic mineral processing stationary source(s) 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. An appendix is included in your general permit. Unless specifically indicated otherwise, requirements contained in the various parts of the appendix are enforceable conditions of this general permit. The limits and other requirements contained in Table A apply to each nonmetallic mineral processing stationary source constructed, modified, or operated by the Permittee which is covered by this general permit.

Stationary Source: “Stationary source” has the meaning given in Minn. R. 7005.0100, subp. 42c. For there to be a nonmetallic mineral processing stationary source, one or more pieces of processing equipment (such as those listed in Table A.1, namely crushers, screens, transfer operations, etc.) must be present and operational (storage of equipment in an inoperative state does not constitute a stationary source). Stationary sources may contain portable, mobile, and stationary equipment.

Multiple-Party Site: A multiple-party site is a stationary source location where two or more equipment owners or operators operate nonmetallic mineral processing equipment on the same site and there exists a contractual or other similar relationship between them regarding processing of nonmetallic minerals or their nonmetallic mineral processing operations support each other at the site.

At a multiple-party site, the governing permit is the permit held by the nonmetallic mineral processing company that establishes the stationary source and hires others to perform part of the nonmetallic mineral processing there. This company, which is the holder of the governing permit, is the Permittee responsible for the multiple-party site. If you are the Permittee of a stationary source location which is a multiple-party site, you shall require all parties to comply with the provisions of your permit.

Table A.1: Eligibility Requirements

What to do	Why to do it
<p>Emission Units Allowed: Each nonmetallic mineral processing stationary source constructed, modified and operated under this general permit shall consist only of:</p> <p>Crushers (subject to the fines crushing production limitation described, below, under “Materials Allowed”)</p> <p>Screens</p> <p>Wet screening operations and associated transfer operations downstream of the wet screening operation in the production line process up to, but not including, the next crusher in the production line of a nonmetallic mineral processing stationary source. A wet screening operation means a screening facility designed and operated to remove unwanted material from the product by a washing process whereby the product is completely saturated with water in a slurry.</p> <p>Transfer operations (including belt conveyors, enclosed truck/railcar loading stations, bucket elevators, storage bins, stackers, ladders, chutes, classification screws, feeders, pneumatic systems, and bagging operations)</p> <p>Internal combustion engines</p> <p>Storage piles</p> <p>Paved and unpaved roads and parking lots</p> <p>Bulldozers, loaders, and other related vehicles</p> <p>Insignificant activities as defined in Minn. R. 7007.1300, subp. 2 and 3</p>	<p>Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100</p>
<p>Emission Units Not Allowed: Although only the emission units listed in “Emission Units Allowed” are allowed under this general permit, the following emission units that are sometimes part of a nonmetallic mineral processing stationary source are specifically not allowed under this general permit: grinding mills, air conveying systems, air separators, air classifiers, calciners, and aggregate heaters/dryers.</p>	<p>Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100</p>
<p>Other NSPS Affected Facilities Not Allowed: A nonmetallic mineral processing stationary source constructed, modified, and operated under this general permit shall not contain equipment which is an affected facility under any New Source Performance Standard (NSPS) under 40 CFR pt. 60 other than 40 CFR pt. 60, subp. OOO. (This excludes tanks (must be insignificant activities) subject to a recordkeeping requirement under 40 CFR pt. 60, subp. Kb as indicated in Table A.9.)</p>	<p>Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100</p>

Table A.1 (Continued)

<p>Materials Allowed: Except as specifically provided below, a nonmetallic mineral processing stationary source constructed, modified, and operated under this general permit may produce or process only:</p> <ul style="list-style-type: none"> Crushed and broken limestone Crushed and broken granite Crushed and broken stone Construction sand and gravel Recycled concrete Recycled asphalt pavement The initial steps in producing manufactured sand <p>Exceptions:</p> <p>Other - De Minimis Quantities: A de minimis quantity is a quantity of materials, other than those listed above, that may be produced or processed such that the total amount of actual emissions from producing or processing of all de minimis quantities in any calendar year at any stationary source location is less than one ton (i.e., 1 ton/year per site) of Particulate Matter (PM). No pollutants other than PM and Particulate Matter less than 10 microns (PM₁₀) may be emitted as a result of producing or processing the other material, except those emitted from the operation of associated internal combustion engines. Whenever the Permittee produces or processes de minimis quantities of other materials, calculations of the projected and actual PM and PM₁₀ emissions from producing or processing de minimis quantities must be kept by the Permittee along with records of the dates, site, tons of material produced or processed and a description of the material.</p> <p>Fines Crushing: Crushing material to a maximum size of 3/16 inch or smaller in any calendar year at any stationary source location covered by this general permit is limited to less than 50,000 tons (i.e., 50,000 tons/year per site). Whenever the Permittee performs fines crushing, records must be kept by the Permittee indicating the dates, site, and tons of material produced or processed as well as a description of the material. Crushing material to a maximum size of 3/16 inch is referred to in this general permit as “fines crushing.” Fines crushing involves the production of manufactured sand and products of a similar size.</p>	<p>Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100</p>
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Table A.1 (Continued)

<p>Control Equipment Allowed: A nonmetallic mineral processing stationary source constructed, modified, and operated under this general permit may contain add-on air pollution control equipment to capture and remove air pollutants from process air streams or have equipment located indoors provided that compliance with all emission limits in this general permit is maintained without considering the effect of such controls. Because no prescribed operation and maintenance and recordkeeping is required, reduced emissions due to such add-on control equipment will not be considered when calculating emissions for the annual emissions inventory.</p>	<p>Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100</p>
<p>Geographic Areas of Operation Allowed: Under this general permit, provided all conditions are met at all stationary sources, the Permittee is authorized to construct, modify and operate multiple stationary sources simultaneously anywhere in Minnesota except any area designated as nonattainment for PM₁₀. If the Permittee wishes to operate at a location in an area that is or becomes reclassified nonattainment for PM₁₀ after issuance of this general permit, the Permittee must submit an application for an individual part 70, state, or registration permit to cover that location before commencing operation or beginning actual construction or modification of a nonmetallic mineral processing stationary source.</p>	<p>Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 12, and Minn. R. 7007.1100</p>

Table A.2: Overall Requirements that Apply to the Permittee

What to do	Why to do it
<p>Recordkeeping: Retain all records required by this general permit at each stationary source or, at the Permittee's option, the Permittee's central office for a period of five years from the date of monitoring, emission calculations, sampling, measurement, or report. Records which must be retained include all calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all reports and records required by this general permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).</p>	<p>Minn. R. 7007.0800, subp. 5(A) and 5(C)</p>
<p>Submittals: All submittals required by this general 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 and B. All submittals must be postmarked or received by the date specified in the tables.</p>	<p>Minn. R. 7007.0800, subp. 6</p>
<p>Submittal Extension Requests. Any extension requests for submittal dates must be postmarked or received at least 21 days prior to the deadline(s) specified in this general permit. The request must explain the reason(s) why the extension is needed, with a separate explanation for each deadline for which an extension is sought. A requested extension will not be effective until approved by the Air Quality Division Manager. The Division Manager will grant an extension only for such period of time as the Division Manager determines is reasonable under the circumstances.</p>	<p>Minn. R. 7007.0800 subp. 16(L)</p>
<p>Oral Notification of Deviations Endangering Human Health and the Environment: Within 24 hours of discovery, orally notify the Commissioner of any deviation from the general permit conditions which could endanger human health or the environment. The telephone number is (612)296-7300.</p>	<p>Minn. R. 7007.0800, subp. 6(A)</p>
<p>Written Notification of Deviations Endangering Human Health and the Environment: Due two days after the discovery of the deviation, submit a written description of the deviation to the Supervisor, Compliance Determination Unit, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194, including the following information: cause of the deviation; exact dates of the period of the deviation; if the deviation has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.</p>	<p>Minn. R. 7007.0800, subp. 6(A)</p>

Table A.2 (Continued)

Shutdowns: Notify the Commissioner, by calling (612)296-7300, at least 24 hours in advance of shutdown of any process or control equipment if the shutdown would cause an increase in the emission of air contaminants. At the time of notification, notify the Commissioner of the cause of the shutdown and the estimated duration. Notify the Commissioner again when the shutdown is over.	Minn. R. 7019.1000, subp. 1
Breakdowns: Notify the Commissioner, by calling (612)296-7300, immediately of a breakdown of more than one hour duration of any process or control equipment if the breakdown causes an increase in the emission of air contaminants. At the time of notification or as soon thereafter as possible, the Permittee shall also notify the Commissioner of the cause of the breakdown and the estimated duration. Notify the Commissioner again when the breakdown is over.	Minn. R. 7019.1000, subp. 2
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. <i>The reports must be submitted even if there were no deviations for the reporting period.</i> This is to be submitted on a form approved by the Commissioner.	Minn. R. 7007.0800, subp. 6(A)
Compliance Certification: Due 30 days after the end of each calendar year (January 30) following general permit issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner.	Minn. R. 7007.0800, subp. 6(C)
Emissions Inventory Report: To be submitted annually on a form approved by the Commissioner which will be sent to you each year.	Minn. R. 7019.3000- 7019.3010
Emission Fees: Due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005- 7002.0095
Inspections: Upon presentation of credentials allow the MPCA, or its representative, to enter the Permittee's premises, to have access to and copy any records required by this general 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(A)
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.	Minn. R. 7011.0020
Performance Testing: Conduct all performance testing in accordance with Minn. R. ch. 7017 unless otherwise noted. The Commissioner may request additional performance testing under Minn. R. 7017.2020, subp. 1.	Minn. R. 7017.2001- 7017.2060

Table A.3: Requirements and Limits that Apply to the Entire Stationary Source

What to do	Why to do it
<p>Material Moisture Content:</p> <p>At each stationary source, the feed material moisture content shall be greater than or equal to 1.5 percent. This shall be demonstrated at each stationary source by either 1 or 2 below:</p> <ol style="list-style-type: none"> 1. Test moisture content of each different feed material source (sampled at an area representative of the feed source and physically capable of being sampled), as follows: <ol style="list-style-type: none"> a. Use American Society for Testing and Materials (ASTM) method numbers D 2216-92 or D 4643-93 (or equivalent). b. Keep records of each moisture content test summarizing the method used, results, date, time, and initials of person performing test. c. Test weekly, when operating, unless three consecutive tests at the stationary source location show moisture contents of greater than or equal to 1.5 percent after which testing is no longer required until the source of the feed material changes. d. When testing indicates that feed material moisture content is less than 1.5 percent, or in situations where it is infeasible to sample and test, or where the Permittee elects not to sample and test, the Permittee must operate a moisture addition device at or immediately prior to the initial crusher(s) or initial screen(s) where unprocessed feed material is being fed to achieve a moisture content greater than or equal to 1.5 percent. Moisture addition during operation shall continue until subsequent moisture content testing demonstrates that feed material moisture content is greater than or equal to 1.5 percent. Daily, when operating, either: (i) keep records of the date, water flow rate, material throughput rate, and initials of the person making the record and the time the record was made; or (ii) conduct moisture content testing daily on the feed material after water application following a. and b. above, and if results show moisture content is less than 1.5 percent, increase water addition to insure moisture is 1.5 percent or greater and re-test to verify. 	<p>Title I Condition.</p> <p>Limit to avoid classification as major source and modification under 40 CFR § 52.21 and Minn. R. 7007.3000;</p> <p>Limit to avoid major source classification under 40 CFR § 70.2 and Minn. R. 7007.0200; Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100</p>

Table A.3 (Continued)

<p><u>OR</u></p> <p>2. Keep records indicating that feed material is being removed from below the water table - or from below the surface of a waterway (e.g., creek, river, lake) - or that the feed material is recycled asphalt pavement. Records shall include a description of the source (if recycled asphalt pavement, so indicate), the corresponding dates, and the initials of the person making the record.</p>	
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Table A.3 (Continued)

<p>Stationary Source Designation and Capacity Limits: Only one option (Small, Medium, or Large) at a time shall apply at each stationary source covered by this general permit. The option that shall apply to a particular stationary source is selected by the Permittee from the Stationary Source Designation Matrix in Appendix I, either Table 1 or Table 2. The option, along with the limit on annual production (throughput), and the limit on the amount of equipment shall be indicated in a New Location Notification submitted by the Permittee as required by this general permit on a form approved by the Commissioner.</p> <p>(Wet screening operations and associated transfer operations downstream of the wet screening operation in the production line process up to, but not including, the next crusher in the production line of a nonmetallic mineral processing stationary source shall not be counted towards the number of units or capacity levels indicated under the three site designation options. A wet screening operation means a screening facility designed and operated to remove unwanted material from the product by a washing process whereby the product is completely saturated with water in a slurry.)</p> <p>To demonstrate compliance with the annual production limit at each stationary source location, the Permittee shall daily record the production, in tons, and monthly calculate and record a 12-month rolling sum (i.e., the current month plus the eleven preceding months). If a stationary source has less than 12 months of operational data, the Permittee shall determine compliance during the first 12 months under this general permit using the following formula:</p> $N = 0.95 \times (\text{Annual Production Limit}) + 0.0045 \times (\text{Annual Production Limit}) \times (n-1)$ <p>Where “n” is the number of months in operation, and “N” is the rolling sum limit for the current month.</p> <p>At its option, the Permittee may calculate and record individual monthly sums, in lieu of 12-month rolling sums, for a stationary source location such that the annual production limit divided by 12 is not exceeded. These calculations and records must be made by the 15th of the following month.</p> <p>(At a multiple-party site, the number of pieces of equipment (Table 1) or the capacity of equipment (Table 2) of all parties operating at the site at the same time shall be added together by the Permittee to determine the stationary source designation and the appropriate non-process dust control option for that site. Likewise, the production of all parties shall be added together by the Permittee to determine compliance with the annual production limit from the Stationary Source Designation Matrix.)</p>	<p>Title I Condition. Limit to avoid classification as major source and modification under 40 CFR § 52.21 and Minn. R. 7007.3000; Limit to avoid major source classification under 40 CFR § 70.2 and Minn. R. 7007.0200; Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, Minn. R. 7007.1100, and Minn. R. 7011.0150</p>
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Table A.3 (Continued)

<p>Non-Process Dust Control Options:</p> <p>The option (Small, Medium, or Large), and the associated non-process dust control requirements, that shall apply to each stationary source covered by this general permit is selected by the Permittee from the Stationary Source Designation Matrix as described above.</p> <p><u>Small Stationary Source Non-Process Dust Control:</u></p> <p>The Permittee shall comply with the requirements of Minn. R. 7011.0150. This means that all reasonable measures shall be taken to prevent avoidable amounts of particulate matter from becoming airborne. In a practical manner this refers to preventing avoidable visible dust emissions beyond the lot line surrounding the stationary source. Control of non-process dust emissions can be achieved through such measures as applying water or commercially available dust suppressant to stock piles, unpaved roads and handling areas.</p> <p><u>Medium Stationary Source Non-Process Dust Control:</u></p> <p>In addition to the requirements described in the “Small” option, the following requirements apply to the Permittee:</p> <ol style="list-style-type: none"> 1. Record date and time of action and initials of person making the record. 2. Record amount of water or dust suppressant applied. 3. If a commercially available dust suppressant is used, it shall be applied in accordance with the manufacturer’s guidelines. A copy of these manufacturer’s guidelines must be kept by the Permittee. 	<p>Title I Condition. Limit to avoid classification as major source and modification under 40 CFR § 52.21 and Minn. R. 7007.3000; Limit to avoid major source classification under 40 CFR § 70.2 and Minn. R. 7007.0200; Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, Minn. R. 7007.1100, and Minn. R. 7011.0150</p>
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Table A.3 (Continued)

<p>Non-Process Dust Control Options (Continued):</p> <p><u>Large Stationary Source Non-Process Dust Control:</u></p> <p>In addition to the requirements described in the “Small” option, the following requirements apply to the Permittee:</p> <ol style="list-style-type: none"> 1. Record date and time of action and initials of person making the record. 2. Record amount of water or dust suppressant applied. 3. If a commercially available dust suppressant is used, it shall be applied in accordance with the manufacturer’s guidelines. A copy of these manufacturer’s guidelines must be kept by the Permittee. 4. Record the location (e.g., on a site sketch) of water or dust suppressant application. 5. Install a rain gauge at the site and record the precipitation in the previous 24 hours for each day of operation at the site. 6. Make and record basic weather observations according to the Weather Summary Criteria listed in Appendix I that best characterize each operating day. 7. Unpaved roads at the site shall be posted with speed limit signs indicating a maximum speed of 10 miles per hour. 8. Equipment to apply water or dust suppressant shall always be available at the site or on call for use at the site within a given operating day. 	
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Table A.3 (Continued)

<p>Labeling Requirements: Permanently affix the manufacturer's serial number (or otherwise unique identifying number) to each piece of crushing, screening, transfer operation, and stationary internal combustion engine equipment for tracking purposes within 60 days of permit issuance. The number shall be permanently affixed and maintained so that it is readable and visible at all times from a safe distance at each stationary source. This number shall correspond to the number contained in records regarding the piece of equipment.</p>	<p>Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100</p>
<p>NSPS Equipment Description and Notification: When additional equipment is added to the Permittee's operations, an NSPS Equipment Description and Notification must be submitted on a form approved by the Commissioner and/or a record must be made as described below. The NSPS Equipment Description and Notification form shall be used to provide the required NSPS notifications described in Table A.7 and summarized in Table B. All NSPS affected facilities owned or operated by the Permittee at any stationary source covered by this general permit must be accounted for in the NSPS Equipment Description and Notification form submitted at the time of permit application or in these subsequent updates. If a piece of equipment is not subject to NSPS, the Permittee must keep records to demonstrate that it did not need to be included in a notification. (If you are the Permittee responsible for a stationary source location which is a multiple-party site covered by your general permit, you shall take all reasonable measures to insure that all equipment being operated at the stationary source has met the notification and testing requirements of the NSPS. You are not required to repeat the notices and tests if they have already been done; however, you must be able to indicate where the documentation of the notices and tests can be found (e.g., the Air Quality Division file associated with a company you have hired).)</p>	<p>Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100</p>
<p>New Location Notification: Submit a New Location Notification on a form approved by the Commissioner, at least 48 hours prior to each change in location of a stationary source, establishment of a new stationary source location, or change in a capacity/dust control option at an individual stationary source.</p>	<p>Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 12, and Minn. R. 7007.1100</p>
<p>Comply with the source-specific requirements in Appendix I</p>	<p>See Appendix I</p>

Table A.4: Limits that Apply to NSPS Crushers

(Those subject to 40 CFR pt. 60, subp. OOO.)

What to do	Why to do it
Opacity: less than 15 percent opacity.	40 CFR § 60.672(c) and Minn. R. 7011.3350

Table A.5: Limits that Apply to other Equipment Subject to NSPS

(Those subject to 40 CFR pt. 60, subp. OOO. Included here are, screens, belt conveyors, bucket elevators, bagging operations, storage bins, and enclosed truck or railcar loading stations.)

What to do	Why to do it
Opacity: less than 10 percent opacity.	40 CFR § 60.672(b) and Minn. R. 7011.3350

Table A.6: Limits that Apply to Equipment not Subject to NSPS

What to do	Why to do it
Opacity: For equipment put in operation on or after 7/9/69: less than 20 percent opacity. For equipment put in operation before 7/9/69: less than 20 percent opacity except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60-minute period and 40 percent opacity shall be permissible for four additional minutes in any 60-minute period.	Minn. R. 7011.0715, subp. 1(B) Minn. R. 7011.0710, subp. 1(B)

Table A.7: NSPS Notification and Testing Requirements for Equipment Newly Subject to NSPS (Subpart OOO) and Submittal Requirements for Replacements

(If you are the Permittee responsible for a stationary source location which is a multiple-party site covered by your general permit you shall take all reasonable measures to insure that all equipment being operated at the stationary source has met these requirements in Table A.7. You are not required to repeat the notices and tests if they have already been done; however, you must be able to indicate where the documentation of the notices and tests can be found (e.g., the Air Quality Division file associated with a company you have hired).)

What to do	Why to do it
CONSTRUCTION OR RECONSTRUCTION: Notification of construction or reconstruction postmarked no later than 30 days after the start of construction as defined in 40 CFR § 60.2 except for mass-produced (prefabricated) affected facilities.	40 CFR § 60.7(a)(1) and Minn. R. 7019.0100
ANTICIPATED INITIAL STARTUP: Notification of the anticipated initial startup date postmarked no more than 60 days nor less than 30 days prior to such date. Startup is defined in 40 CFR § 60.2.	40 CFR § 60.7(a)(2) and Minn. R. 7019.0100
ACTUAL INITIAL STARTUP: Notification of actual initial startup date postmarked within 15 days after such date.	40 CFR § 60.7(a)(3) and Minn. R. 7019.0100
INITIAL PERFORMANCE TESTING: Shall be completed within 60 days of obtaining maximum capacity but no later than 180 days after initial startup date.	40 CFR §§ 60.8(a), 60.675, 60.676, Minn. R. 7017.2015, and Minn. R. 7011.3350
PERFORMANCE TEST NOTIFICATION Performance test notification postmarked at least 30 days prior to conducting a performance test.	40 CFR § 60.8(d), and Minn. R. 7017.2015
REPLACEMENT: Notification postmarked within 60 days after making the replacement.	40 CFR §§ 60.670(d), 60.676, and Minn. R. 7011.3350

Table A.8: Requirements and Limits that Apply to Stationary Internal Combustion Engines at Each Stationary Source

(This includes electric generators as well as other stationary internal combustion engines (e.g., those which directly drive crushers or screens), but does not include mobile sources, such as loaders, haul trucks and other vehicles.)

What to do	Why to do it
<p>Allowed Fuels: Diesel fuel, natural gas, liquefied petroleum gas (LPG)/propane, and gasoline, subject to the limitation described below. No other fuels shall be used.</p> <p>For each stationary source location covered by this general permit, the Permittee shall monthly record the amount of each fuel used during the previous month and do the calculation on the Stationary Internal Combustion Engines Fuel Use form (NM-EN) in Appendix I by the 15th of the following month. The Permittee may elect to make and record this calculation in a different format, but it must include the same information.</p> <p>(At a multiple-party site, the fuel used by all parties operating at the site at the same time shall be added together by the Permittee to determine compliance for that site.)</p>	<p>Title I Condition. Limit to avoid classification as major source and modification under 40 CFR § 52.21 and Minn. R. 7007.3000; limit to avoid major source classification under 40 CFR § 70.2 and Minn. R. 7007.0200; to ensure compliance with Minn. R. 7011.2300, subp. 2; Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100</p>
<p>Opacity: not to exceed 20 percent opacity for more than ten consecutive seconds once operating temperatures have been obtained.</p>	<p>Minn. R. 7011.2300, subp. 1</p>

Table A.9: Limits and Requirements that Apply to Volatile Organic Liquid Storage Tanks (Must be Insignificant Activities) Which are Subject to 40 CFR pt. 60, subp. Kb

Tanks *subject* to 40 CFR pt. 60, subp. Kb include those meeting both of the following requirements:

- storage capacity is greater than or equal to 40 m³ (10,568 gallons); *and*
- tank construction, reconstruction, or modification commenced after July 23, 1984.

(If you are the Permittee responsible for a stationary source location which is a multiple-party site covered by your general permit, you shall take all reasonable measures to insure that all subject tanks meet these requirements in Table A.9. You are not required to repeat the recordkeeping requirement if it has already been met.)

What to do	Why to do it
Tank size: Any volatile organic liquid storage tank constructed, reconstructed, or modified after July 23, 1984, must have a design capacity less than 75 m ³ (19,815 gallons)	Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100
Records: For each tank, keep records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Retain records for the life of the tank.	40 CFR §§ 60.116b(b) and 60.116b(a), and Minn. R. 7011.1520(C)

TABLE B: SUBMITTALS

Table B lists the submittals you must send to the Commissioner. Send all submittals (unless specifically instructed otherwise) to: Supervisor, Compliance Determination Unit, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

When to send	What to send	What is affected
At least 48 hours prior to each change in location of a stationary source, establishment of a new stationary source location, or a change in capacity/dust control option at an individual stationary source	New Location Notification on a form approved by the Commissioner	Each stationary source to be covered by your general permit
No later than 30 days after such date	NSPS Equipment Description and Notification on a form approved by the Commissioner Notifying commencement of construction (defined in 40 CFR § 60.2)	Equipment newly subject to NSPS except for mass-produced (i.e., prefabricated) facilities
No more than 60 days nor less than 30 days prior to such date	NSPS Equipment Description and Notification on a form approved by the Commissioner Notifying anticipated date of initial startup	Equipment newly subject to NSPS
Within 15 days after such date	NSPS Equipment Description and Notification on a form approved by the Commissioner Notifying initial startup date	Equipment newly subject to NSPS
Within 60 days after making the replacement	NSPS Equipment Description and Notification on a form approved by the Commissioner Notifying equipment replacement (With information required in 40 CFR § 60.676 attached)	An existing facility (piece of equipment not subject to NSPS) being replaced by a piece of equipment of equal or smaller size or capacity

Table B (Continued)

At least 30 days before performance test date	Test Plan on a form approved by the Commissioner along with NSPS Equipment Description and Notification on a form approved by the Commissioner Notifying performance test	Affected facility as defined in 40 CFR § 60.676 and any other equipment required to be tested
Required only if requested	Pre-test meeting	Affected facility as defined in 40 CFR § 60.676 and any other equipment required to be tested
Within 45 days after performance test date	Test report	Equipment tested
Within 105 days after performance test date	Microfiche test report	Equipment tested
Semiannually: July 30, covering January 1 through June 30, and January 30, covering July 1 through December 31	Semiannual Deviations Reporting on a form approved by the Commissioner with a summary of <i>all</i> instances of deviations from permit conditions (or indicating none occurred). Submit the end-of-year report with your annual Compliance Certification	All stationary sources covered by your general permit (A single form indicating information for stationary sources covered by this general permit during the reporting period)
Annually, by January 30 for the previous calendar year	Compliance Certification on a form approved by the Commissioner	All stationary sources covered by your general permit (A single form indicating information for stationary sources covered by this general permit during the reporting period)

Table B (Continued)

Annually, by April 1 for the previous calendar year	Emissions inventory report A form will be sent for you to complete and return	All stationary sources covered by your general permit (A single form indicating information for stationary sources covered by this general permit during the reporting period)
Annually, within 60 days of receipt of an MPCA bill	Emission fees	All stationary sources covered by your general permit (A single payment for stationary sources covered by this general permit during the period)
Within 24 hours of discovery	Oral notification of deviation endangering human health or the environment By calling (612)296-7300	Each stationary source covered by your general permit
Within 2 days of discovery	Written description of deviation endangering human health or the environment	Each stationary source covered by your general permit
At least 24 hours before a shutdown of process or control equipment if it would cause an increase in the emission of air contaminants and again when the shutdown is over	Shutdown notification By calling (612)296-7300	Each stationary source covered by your general permit
Immediately for a breakdown of more than one hour duration of any process or control equipment if the breakdown causes an increase in the emission of air contaminants and again when the breakdown is over	Breakdown notification By calling (612)296-7300	Each stationary source covered by your general permit
At least 21 days prior to the deadline for which an extension is being requested	Submittal extension request	Varies

APPENDIX I: SOURCE-SPECIFIC REQUIREMENTS

Stationary Source Designation Matrix

Stationary Internal Combustion Engines Fuel Use

Weather Summary Criteria

NONMETALLIC MINERAL PROCESSING GENERAL PERMIT, STATIONARY SOURCE DESIGNATION MATRIX

TABLE 1 - Annual Production versus Numbers of Units

Number of Units			Stationary Source Annual Production (tons) - Up to:								
Crushers	Screens	Transfer Operations	1,000,000 <u>Qualifies as:</u>	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000
1	1	10	small	small	small	medium	medium	medium	medium	medium	large
2	2	20	small	small	small	medium	medium	medium	large	large	large
3	3	30	small	small	medium	medium	medium	large	large	large	not allowed
4	4	40	small	small	medium	medium	large	large	not allowed	not allowed	not allowed
5	5	50	small	medium	medium	large	large	not allowed	not allowed	not allowed	not allowed
6	6	60	small	medium	medium	large	not allowed	not allowed	not allowed	not allowed	not allowed
7	7	70	small	medium	large	not allowed	not allowed	not allowed	not allowed	not allowed	not allowed
8	8	80	medium	medium	large	not allowed	not allowed	not allowed	not allowed	not allowed	not allowed

Stationary sources, using Table 1, with over 3,000,000 tons per year throughput or with more than 8 crushers, 8 screens or 80 transfer operations are not allowed under this general permit. Not allowed (in both Tables 1 and 2) means not authorized by this general permit.

TABLE 2 - Annual Production versus In-Place Capacity

Cumulative In-Place Capacity (tph)			Stationary Source Annual Production (tons) - Up to:								
Crushers	Screens	Transfer Operations	1,000,000 <u>Qualifies as:</u>	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000
750	750	7,500	small	small	medium	medium	medium	large	large	large	not allowed
1,250	1,250	12,500	medium	medium	medium	medium	large	large	not allowed	not allowed	not allowed
2,500	2,500	25,000	large	large	large	large	large	not allowed	not allowed	not allowed	not allowed

Stationary sources, using Table 2, with cumulative capacities above 2,500 tons per hour (tph) for crushers or for screens or above 25,000 tph for transfer operations are not allowed under this general permit.

If Table 2 is used for determining the stationary source designation, in order to demonstrate compliance with the cumulative capacity limitation, the Permittee must keep an up-to-date record (e.g., a site plan or process flow diagram) showing the cumulative in-place capacity of each equipment type at the stationary source. This record does not need to identify specific unique identifying numbers for pieces of equipment. It may be generic in nature, but must be sufficiently detailed to determine the cumulative capacity of all equipment types at the stationary source.



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

CALCULATION FORM **NM-EN**
STATIONARY INTERNAL
COMBUSTION ENGINES
FUEL USE
General Permit
Nonmetallic Mineral Processing

- 1) AQD File No.: _____
- 2) AQD Permit No.: _____
- 3) Company Name: _____
- 4) Stationary Source Name/Location: _____
- 5) Dates of period covered by calculation _____
- 6) Printed name of person recording calculation: _____
- 7) Date (must be done by 15th of following month): _____

Fuel Type	Amount Burned in Previous 12-Month Period at Stationary Source Location *	Units	Multiplying Factor	Subtotal
Diesel Fuel	_____	Gallons	x 2.35 ÷ 10,000	_____
Natural Gas	_____	Cubic Feet	x 1.70 ÷ 1,000,000	_____
Liquefied Petroleum Gas (LPG) / Propane	_____	Gallons	x 6.95 ÷ 100,000	_____
Gasoline	_____	Gallons	x 2.00 ÷ 1,000	_____
Calculation Total	(Sum subtotals)		Must be less than 100 *	_____

* If a stationary source has less than 12 months of operational data, the Permittee shall determine compliance during the first 12 months under this general permit using the following formula:

$$N = 0.95 \times (\text{Annual Limit}) \\ + 0.0045 \times (\text{Annual Limit}) \times (n-1)$$

Where "n" is the number of months in operation, and "N" is the rolling sum limit for the current month.

At its option, the Permittee may calculate and record individual monthly sums, in lieu of 12-month rolling sums, for a stationary source location such that the annual production limit divided by 12 is not exceeded. Also at its option, if only one fuel is used, the Permittee may record and sum the quantity of fuel used directly, in which case the annual limits are as follows: 420,000 gallons for diesel fuel, 58 million cubic feet for natural gas, 1.4 million gallons for propane, and 50,000 gallons for gasoline.

**WEATHER SUMMARY CRITERIA
FOR
LARGE STATIONARY SOURCE NON-PROCESS DUST CONTROL OPTION
NONMETALLIC MINERAL PROCESSING GENERAL PERMIT**

Sky Conditions

CLR	<1/10 cloud coverage
SCT (Ptly Cldy)	1/10-5/10 cloud coverage (opaque)
BKN (Mstly Cldy)	6/10-9/10 cloud coverage (opaque)
OVC (Cloudy)	10/10 cloud coverage (opaque)
THN OVC	Sky is completely covered with high thin clouds and <5/10 cloud coverage is opaque

Note: The cloud coverage is a cumulative total of all cloud layers.

Weather Conditions

Fog	May also be associated with drizzle and may obstruct sky
Drizzle	Small particles of rain many times associated with fog
Lt Rain	Continuous falling at a light rate (good horizontal visibility)
Mod Rain	Continuous falling at a mod. rate (horiz. visibility decreased)
Hvy. Rain	Continuous falling at heavy rate; in sheets (horizontal visibility low)
T-Strm	Thunderstorm -- thunder, lightning, and usually mod. to hvy. rain
Hail	Associated with thunderstorms
Frz Rain	Rain that freezes on contact of cold objects; glazing
Sleet	Mixture of rain and ice pellets
Ice Pellets	Clear/mostly translucent pellets of ice -- not easily broken/crushed
Snw Grns/Snw Pellets	Hard/crunchy opaque (white) pellets of snow -- easily crushed
Lt Snow	Falling at a light rate; flurries (good horizontal visibility)
Mod Snow	Falling at a moderate rate (horizontal visibility decreased)
Hvy Snow	Falling at a heavy rate (poor horizontal visibility)

Wind Scale

0-10 MPH	Light Breeze	Leaves rustle
10-20 MPH	Light Wind	Small tree branches move; wind extends light flag
20-30 MPH	Mod. Wind	Large branches in motion; umbrella used with difficulty
30-40 MPH	Mod. Gale	Whole trees in motion; difficulty walking against wind
40-50 MPH	Strong Gale	Twigs break off of trees

Temperature

Approximate using a range of 5 degrees Fahrenheit if the actual temperature is not known.

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION GENERAL PERMIT
For
NONMETALLIC MINERAL PROCESSING
June 1996

[This June 1996 version of the technical support document is for the Nonmetallic Mineral Processing General Permit as it is to be issued. This version contains the text used at the time of placing the draft general permit on public notice, a summary of the correspondence and outreach that took place after the public notice period, as well as some additional clarifications. As a result of some comments, the draft general permit was slightly revised after the public notice period. A copy of the general permit text indicating the changes (with strike-through marks and underscores) was an enclosure to a response letter dated April 12, 1996, which is included in the correspondence attached to this technical support document.]

This technical support document is for all the interested parties of the draft general permit and to meet the requirements that have been set forth by the federal regulations and Minnesota Rules ((40 CFR § 70.7(a)(5)) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the draft general permit.

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Codes Include: 1422, 1423, 1429, 1442, and 1446)
Various	Various
	(Cannot be in PM ₁₀ nonattainment areas)

1.2. Description of the Permit Action

The proposed general permit covers both those nonmetallic mineral processing operations which permanently operate at a single location as well as those temporary operations (sometimes referred to as portable crushing spreads) that move from one location to another. Both of these are referred to in the general permit materials by the term “stationary source” which is defined in Minn. R. 7005.0100, subp. 42c. The issuance of this general permit is authorized by Minn. R. 7007.1100, subp. 1 which allows the Minnesota Pollution Control Agency (MPCA) to issue a general permit is “numerous and similar stationary sources are subject to substantially similar

regulatory requirements. . .” The general permit authorizes operations in all areas of the state except areas designated nonattainment for particulate matter smaller than 10 microns (PM₁₀).

The proposed general permit will replace the Existing Stationary Nonmetallic Mineral Processing Plant General Permit which was first issued in 1994. Current holders of that general permit will need to apply for the new general permit or an individual part 70, state, or registration permit.

The stationary sources eligible for the proposed general permit are nonmajor sources as defined in Minn. R. 7007.0200. The general permit covers stationary sources required to obtain permits by Minn. R. 7007.0250. The proposed general permit contains federally enforceable conditions to limit the potential-to-emit (PTE) of each criteria pollutant (including particulate matter (PM) or total suspended particulate (TSP)) to less than 100 tons per year (tpy); therefore, each stationary source covered by this general permit is a nonmajor source as defined in 40 CFR § 52.21 Prevention of Significant Deterioration (Minn. R. 7007.3000). Also, each stationary source is a nonmajor source as defined in 40 CFR § 52.24 (Minn. R. 7007.4000) for all pollutants. Finally, each stationary source is nonmajor under Minn. R. 7007.0200, and thus this is a state permit not a part 70 permit.

Each stationary source eligible for the proposed general permit may include the following types of equipment and activities for which a permit is required by Minn. R. 7007.0150:

- Crushers (subject to the fines crushing production limitation described below)

- Screens

- Wet screening operations and associated transfer operations downstream of the wet screening operation in the production line process up to, but not including, the next crusher in the production line of a nonmetallic mineral processing plant. A wet screening operation means a screening facility designed and operated to remove unwanted material from the product by a washing process whereby the product is completely saturated with water in a slurry.

- Transfer operations (including belt conveyors, enclosed truck/railcar loading stations, bucket elevators, storage bins, stackers, ladders, chutes, classification screws, feeders, pneumatic systems, and bagging operations)

- Internal combustion engines

- Storage piles

- Paved and unpaved roads and parking lots

- Bulldozers, loaders, and other related vehicles

- Insignificant activities as defined in Minn. R. 7007.1300, subp. 2 and 3

For clarification, specific examples of equipment not allowed to be operated under this general permit include: grinding mills, air conveying systems, air separators, air classifiers, calciners, and aggregate heaters/dryers. In addition, a stationary source constructed, modified, and operated under this general permit shall not contain equipment which is an affected facility under any New Source Performance Standard (NSPS) under 40 CFR pt. 60 other than 40 CFR pt. 60, subp. OOO, or tanks (must be insignificant activities) subject to a recordkeeping requirement

under 40 CFR pt. 60, subp. Kb. Add-on air pollution control equipment to capture and remove air pollutants from process air streams (and location of operations indoors) is allowed, but compliance with all emission limits in this general permit must be maintained without considering the effect of such controls.

Except as specifically provided below, a nonmetallic mineral processing stationary source constructed, modified, and operated under this general permit may produce or process only:

- Crushed and broken limestone
- Crushed and broken granite
- Crushed and broken stone
- Construction sand and gravel
- Recycled concrete
- Recycled asphalt pavement
- The initial steps in producing manufactured sand

Exceptions:

Other – De Minimis Quantities: A de minimis quantity is a quantity of materials, other than those listed above, that may be produced or processed such that the total amount of actual emissions from producing or processing of all de minimis quantities in any calendar year at any stationary source location must be less than one tone (i.e., 1 ton/year per site) of Particulate Matter (PM). No pollutants other than PM and Particulate Matter less than 10 microns (PM₁₀) may be emitted as a result of producing or processing the other material, except those emitted from the operation of associated internal combustion engines. Whenever the Permittee produces or processes de minimis quantities of other materials, calculations of the projected and actual PM and PM₁₀ emissions from producing or processing de minimis quantities must be kept by the Permittee along with records of the dates, site, tons of material produced or processed and a description of the material.

Fines Crushing: Crushing material to a maximum size of 3/16 inch or smaller in any calendar year at any stationary source location covered by this general permit is limited to less than 50,000 tons (i.e., 50,000 tons/year per site). Whenever the Permittee performs fines crushing, records must be kept by the Permittee indicating the dates, site, and tons of material produced or processed as well as a description of the material. Crushing material to a maximum size of 3/16 inch is referred to in this general permit as “fines crushing.” Fines crushing involves the production of manufactured sand and products of a similar size.

A stationary source is not eligible for the proposed general permit, or ceases to be eligible for the proposed general permit, if any of the following are true:

1. The stationary source is located in or comes to be located in a PM₁₀ nonattainment area.

2. The stationary source has emission sources or produces or processes material other than as provided for above.

[During the public comment period for the general permit, there was an exchange of correspondence with representatives of the industry who participated in the industry/agency joint work group which shaped the general permit along with the voluntary compliance program for past Subpart OOO noncompliance. (This work group was formed in July 1995 and met several times over the ensuing several months.) This public notice period correspondence is contained in the attachments to this technical support document. Also included in the attachments is the letter that was widely mailed to the industry (on or about April 25, 1996) announcing the voluntary compliance program. (A mailing list was provided by the trade association. A previous letter had been mailed on or about August 8, 1995.)

It is important to note that the trade association, the Aggregate and Ready-Mix Association of Minnesota (ARM), which coordinated industry participation in the work group, took the initiative to prepare and present a day-long training seminar on the general permit (with MPCA staff input and participation). The program, which was attended by approximately 70 people on May 29, 1996, focused on how to complete the application, but also covered ongoing compliance with the general permit, as well as the voluntary compliance program. The table of contents of the training manual is included in the technical support document attachments. The training manual includes examples which help to clarify how to apply or interpret different facets of the general permit materials.]

1.3. Emissions of the Stationary Source

Table 1. Potential to Emit (PTE) Summary and Attainment Status:

Pollutant	PTE (tons/year, tpy)	Attainment or Unclassified? (Yes or No)
Particulate Matter (PM)	<100	Yes
Particulate Matter smaller than 10 microns (PM ₁₀)	<100	Yes
Sulfur Dioxide (SO ₂)	<100	Either
Nitrogen Oxides (NO ₂)	<100	Either
Carbon Monoxide (CO)	<100	Either
Volatile Organic Compounds (VOCs/Ozone)	<100	Either

The general permit preauthorizes modifications and new construction, provided all conditions are always met, in such a way that the overall PTE of the stationary source remains less than 100 tons per year for each pollutant. In addition to avoiding classification as a major source for New Source Review/Prevention of Significant Deterioration (NSR/PSD) and 40 CFR pt. 70 (as described above) this avoids triggering the requirement to prepare an environmental assessment worksheet (EAW), because of air emissions, pursuant to Minnesota Environmental Quality Board rules. A permittee may still need to prepare an EAW in certain situations, however, due to other reasons, such as the overall size of a mine or pit.

Again, the general permit contains provisions to restrict the PTE or PM below 100 tpy including fugitive emissions as shown in the attachments to this technical support document. The part 70 threshold for this industry source category is 100 tpy of PM₁₀ (based on October 1995 U.S. EPA policy memorandum) including fugitives [and per Minn. R. 7007.0200, subp. (2)(B)(27)], while the NSR/PSD threshold is 250 tpy of PM excluding fugitives [given Subpart OOO effective date in 1983 and PSD effective date in 1980]. Therefore, limiting the PTE of PM below 100 tpy, including fugitives, to avoid potentially triggering EAW requirements results in conservatively avoiding the federal thresholds.

Table 2. Stationary Source Classification

	Major	Synthetic Minor	Minor or Nonmajor	N/A
Prevention of Significant Deterioration		X		
Nonattainment Area *		X*		
Operating Permit Program		X		

* Stationary sources covered by this general permit cannot be located in nonattainment areas for PM₁₀ but can be located in nonattainment areas for other pollutants.

2. Summary of Limits and Conditions Indicated in the General Permit

2.1 Table A.1: Eligibility Requirements

Requirement or Condition:

- 1. Emission Units Allowed** (As listed in the general permit)
- 2. Emission Units Not Allowed** (As listed in the general permit)
- 3. Other NSPS Affected Facilities Not Allowed** (Those subject to NSPS other than Subpart OOO are not allowed, with the exception of certain storage tanks)
- 4. Materials Allowed** (As indicated in the general permit)
- 5. Control Equipment Allowed** (But requirements must be met without considering the effect of add-on controls or location of processes indoors with no credit for reduced emissions)
- 6. Geographic Areas of Operation Allowed** (Anywhere in the state except for PM₁₀ nonattainment areas)

Factual or Legal Basis

- 1.-5 Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100.
6. Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 12, and Minn. R. 7007.1100.

Comments:

1. The purpose of these eligibility requirements is to suitably scope the general permit to effectively and efficiently cover the majority (or at least a large portion) of the industry in the state with a single general permit. This needs to be done in a manner consistent with Minn. R. 7007.1100, subp. 1 which allows the MPCA to issue a general permit if “numerous and similar stationary sources are subject to substantially similar regulatory requirements.” Some companies in the nonmetallic mineral processing industry (aggregate processing, sand and gravel, crushed limestone, etc.) operate equipment at some of their sites which is not eligible for coverage under this general permit, and will need to obtain an individual state, registration, or part 70 permit for those stationary source locations. The emission units allowed under this general permit are the most common and widespread in the industry. [This portion of the general permit lists such sources of fugitive dust emissions as storage piles, roads, parking lots, loaders, etc. and is intended to include the actions needed to remove the material from the mine or pit and to transport and feed it into the nonmetallic mineral processing plant itself, as well as load out for off-site shipment.]

Crushers have the qualification indicated in “Materials Allowed” because of a higher emission factor – lb PM (or PM₁₀) per ton of material processed – associated with fines crushing. The size cutoff for fines crushing is 3/16 inch based on the narrative found in Chapter 11.19.2 Crushed Stone Processing of AP-42 (Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources). For crushers, as well as screens and transfer operations, the Fifth Edition, dated January 1995, was used for the PM₁₀ emission factors, and the July 1994 revision to the Fourth Edition (Chapter 11.19.2 renumbered from the previous 8.19.2) was used for PM, as these are the best available sources of emissions information.

Internal combustion engines refers to stationary internal combustion engines (as opposed to mobile sources, such as trucks and loaders, which are also allowed) which drive the process equipment or produce electricity needed for the site operations.

2. This is a clarification, not an exhaustive list, to provide permittees examples of equipment sometimes found in the industry which are not allowed to be operated at stationary sources covered by this general permit. They are not allowed because they are not as common, may be subject to other regulatory requirements, or may have higher emission rates which would be difficult to accommodate in a single general permit. In the application form NM-QU, under question 2, the following clarification is provided: “Question 2 relates to the equipment to be covered under the nonmetallic mineral processing general permit. If you have equipment which is covered under an individual permit (part 70, state, or registration) or general permit for an asphalt plant, it is allowed as long as it follows the nonmetallic mineral processing plant process, and is operated in accordance with its corresponding asphalt plant permit.” In mid-1995, it was decided in COOP (an MPCA Air Quality Division decision-making forum of supervisors and managers) that for purposes of defining a stationary source for permitting, asphalt plants would be a separate stationary source from the aggregate processing operations preceding it. (See also the 1995 COOP meeting minutes and

the technical support document for the asphalt plant general permit.) [Because the situation is analogous for concrete mixing plants, the same consideration holds for them.]

3. This is another clarification to assure that emission units do not operate at stationary sources covered by this general permit if, in so doing, they are affected facilities under another NSPS besides 40 CFR pt. 60, subp. OOO (with the exception of certain tanks subject to a recordkeeping requirement under 40 CFR pt. 60, subp. Kb). The general permit only contains the requirements associated with Subpart OOO.
4. This condition is included in the general permit to make sure that the producing or processing of material at stationary sources covered by this general permit are appropriately characterized by the emission factors used as the basis for the emission calculations and limitations in this general permit. The exceptions are included to allow stationary sources to produce or process small amounts of material not listed and still qualify for coverage under the general permit. All general permit conditions must continue to be met (e.g., the Permittee, if contemplating doing so, must be sure that producing or processing de minimis quantities of a particular material is not subject to another NSPS besides Subpart OOO). The Permittee is required to keep daily records as described in the general permit, along with appropriate emissions calculations which must include an explanation of the suitability of the emission factors used. The limit of one ton of PM per year per stationary source location was chosen because it parallels the level in Minn. R. 7007.1300, subp. 4, under insignificant activities, and because it can be accommodated within the overall limitations of the general permit.

The fines crushing exception is provided acknowledging that in certain situations permittees might produce or process small amounts of material below the 3/16 inch size even though the production of manufactured sand is not the main purpose of the stationary source. Frequently jaw crushers are the primary crushers in aggregate processing plants which are often followed by cone crushers in secondary and/or tertiary crushing steps. Some cone crushers are able to size material below 3/16 inch. Because the emission factor for fines crushing is higher than that for primary through tertiary crushing, the limitation of 50,000 tons per year per stationary source location is needed. This level corresponds to emissions of 3 tons PM per year which is accommodated within the overall limitations contained in the general permit. [Though grinding mills are potentially affected facilities under Subpart OOO, they are not allowed under the general permit; however, there is some overlap in the definitions of "grinding mill" and "crusher" in Subpart OOO. To clarify, the appropriate distinction ought to be based on whether the piece of equipment in question is solely capable of processing material below the 3/16 inch size. A cone crusher, for example, typically can size material above and below the 3/16 inch size.]

5. Add-on pollution control equipment and location of processes indoors, as described in the general permit is allowed, but all emission limits and other requirements in the general permit must be met without considering the effect of such controls. Subpart OOO, for example, contains additional limits and monitoring and recordkeeping requirements for such control equipment as baghouses and scrubbers. This condition was included in the general

permit to allow those permittees (regardless of their reasons) to install and operate add-on controls without taking on the additional monitoring and recordkeeping burden if they are able to meet the requirements and limits of this general permit without considering the effect of such controls. Any reductions in emissions, however, will not be accounted for in the annual emissions inventory.

6. The Permittee may construct, modify, and operate stationary sources under this general permit, provided all conditions are met, anywhere in the state of Minnesota except areas designated nonattainment for PM₁₀. Even though the PM and PM₁₀ emissions from stationary sources are limited to under 100 tons per year by this general permit, stationary sources located in nonattainment areas for PM₁₀ may be subject to other requirements, such as the need to perform dispersion modeling, or other conditions contained in a State Implementation Plan order, for instance.

2.2 Table A.2.: Overall Requirements that Apply to the Permittee

These are standard requirements which are found in all state permits. Under “Recordkeeping” the standard language was slightly modified to allow the Permittee to retain records required by the general permit at its central office, instead of at each stationary source location, if they so choose. This was allowed because of the high degree of portability of operations in this industry. At remote sites, there may not always be an appropriate place, or appropriate personnel needed for the keeping and retaining of records.

A tailored form (NM-DRF) for submitting the semiannual deviations reports was developed for use with this general permit. Similarly, the annual certification is to be done on form NM-CR. The Permittee need only submit one NM-DRF twice a year, and one NM-CR each year. These forms are set up so the Permittee can report all of the deviations (or lack thereof) for all of its stationary sources covered by this general permit on a single form.

2.3 Table A.3: Requirements and Limits that Apply to the Entire Stationary Source

Requirement or Condition:

- 1. Material Moisture Content**
- 2. Stationary Source Designation and Capacity Limits**
- 3. Non-Process Dust Control Options**
- 4. Labeling Requirements**
- 5. NSPS Equipment Description and Notification**
- 6. New Location Notification**

Factual or Legal Basis:

1. Title I Condition: Limit to avoid classification as major source and modification under 40 CFR § 52.21 and Minn. R. 7007.3000; Limit to avoid major source classification under 40

CFR § 70.2 and Minn. R. 7007.0200; Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100.

2. Same as 1. above, as well as Minn. R. 7011.0150.
- 3.-4. Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100.
5. Same as 3.-4. above, as well as Minn. R. 7007.0800, subp. 12.

Comments:

1. The requirement to keep the moisture content of feed material greater than or equal to 1.5 percent is needed because the underlying emissions calculations and basis for the permit limits are based on this moisture content level. AP-42 (referenced above) has a set of process emission factors for material with moisture content greater than or equal to 1.5 percent and another set for material with moisture content less than 1.5 percent. The testing and/or recordkeeping is required to demonstrate compliance with this permit condition. In Minnesota, most sources of natural feed material are usually over 1.5 percent. The second alternative compliance demonstration method for this permit condition includes recycled asphalt pavement (RAP). In producing asphalt pavement, there are often specifications for moisture content in excess of 1.5 percent. In addition, there is the presence of the asphalt cement itself with a binding effect which mitigates dust emissions. Based on the combination of these two considerations, it was concluded to be appropriate to include RAP in alternative 2. In addition, supplemental water application to RAP might have an inadvertent negative environmental effect. This is because it is often fed back into an asphalt plant where it is heated. Excess water requires the combustion of additional fuel with the associated air emissions of the products of combustion. The two compliance demonstration alternatives for this general permit condition provide adequate assurance that material moisture content is greater than or equal to 1.5 percent without being unnecessarily burdensome.
2. Three options for capacity limitations and non-process dust control are provided in the general permit. ("Non-process" means those sources of fugitive PM/PM₁₀ emissions, such as unpaved roads and storage piles. This is opposed to such nonfugitive PM/PM₁₀ emissions from process equipment, such as crushers, screens, and conveyor transfer points.)

Only one of the options (Small, Medium, and Large) at a time applies at each stationary source covered by this general permit. The option that is to apply to a particular stationary source is selected by the Permittee from the Stationary Source Designation Matrix (found in Appendix I), either Table A or Table B. The option, limit on number of units or cumulative capacity, along with the annual throughput limit, is indicated by the Permittee on the New Location Notification form required to be submitted by this general permit.

When Stationary Source Designation Matrix Table B is used, in order to demonstrate compliance with the cumulative capacity limitation, the Permittee needs to keep an up-to-date record (e.g., a site plan or process flow diagram) for each stationary source covered by this general permit. This record does not need to identify specific unique identifying numbers for pieces of equipment. It may be generic in nature, but must be sufficiently

detailed to determine the cumulative capacity of all equipment types at the stationary source. Cumulative capacity means adding up the ton-per-hour capacity – as installed at a given stationary source location, meaning bottlenecks can be considered (as long as they are reflected in the required records) – of all equipment of a given type. For example, if there are three 200 ton-per-hour crushers, regardless of whether they are primary, secondary, or tertiary, the cumulative capacity is 600 tons per hour. This holds true for the other types of equipment as well. Wet screening operations do not need to be included because the emissions from them are negligible.

Although Table A is simpler, the cumulative capacity limitations in Table B are provided as an alternative for some permittees who may prefer it. They were developed to allow a more flexible option for stationary sources that may have a larger number of pieces of equipment than those listed in Table A, but do not run all material over all equipment. The additional equipment is on site to allow for production of a variety of products. Emissions calculations underlying Table A conservatively assume that all material is processed over all pieces of equipment. (This is rarely, if ever, the case.) Therefore, for example, the category of 3 crushers, 3 screens and 3 conveyors, and 1,000,000 tons, effectively assumes that 3,000,000 tons of material is crushed, screened and transferred. In actuality, a much lower total is crushed, screened or transferred in normal operations. A site designated according to Table A could have any sizes of equipment. For example, the 3/3/30 option could have 3 – 500 tph crushers and 3 – 600 tph screens. The limit on annual production conservatively limits the emissions. In the Table B ton-per-hour capacity option, one needs to estimate the total number of times that material is processed. It has been concluded that the three capacity options are equivalent to the following Table A options: 750/750/7500 – 3/3/30, 1250/1250/12500 – 4/4/40, and 2500/2500/25000 – 5/5/50. At a 3/3/30 site, as noted above, the material overall is likely only crushed 2 times, not 3. Therefore, 2 crushers, each crushing 50% of the material throughput could be added without increasing the emissions as calculated. An additional 4 screens each processing 20% of the material could be added without increasing the emissions as calculated. As the number of pieces of equipment goes up, so does the ability to add units that process subsets of the material without increasing emissions. The capacity, Table B, option allows for this activity without strictly dictating a process layout and design. The three capacity options are in the mid-range of Table A. This helps to insure that the appropriate non-process (fugitive) dust controls are implemented at capacity-based sites. To further insure this, as an additional step to be more conservative, the rows in Table B begin with the designation “small” for the 750/750/7500 option (the same as for 3/3/30), but “medium” for 1250/1250/2500, and “large” for 2500/2500/25000.

To demonstrate compliance with the annual production limit at each stationary source location, the Permittee is required to keep a daily record of the production, in tons, and monthly calculate and record a 12-month rolling sum (i.e., the current month plus the eleven preceding months). For those permittees using rolling sums, the method for determining compliance during the first 12 months parallels that found in the newly revised Minn. R. 7007.1110, subp. 7 for registration permits. At its option, the Permittee may calculate and record monthly sums, in lieu of 12-month rolling sums, for a stationary source location such

that the annual production limit divided by 12 is not exceeded. These calculations and records must be made by the 15th of the following month.

To clarify, at a site where multiple spreads are operated under common ownership or control (including the Permittee's contractors or subcontractors) – or are supporting each other – the number of units (Table A) or the cumulative capacities (Table B) of the equipment types of all spreads must be compared to the limitations, likewise for the overall production.

3. A Small Stationary Source has lower (compared to Medium and Large) potential PM/PM₁₀ emissions from process equipment and, thus, does not require as rigorous a program of fugitive dust control (i.e., non-process dust control) in order to stay below the 100 ton per year threshold. The calculations summarized in the attachment to this technical support document indicate this. For this option, no emissions reduction effect (or control efficiency “credit”) is included in the calculations associated with the empirical equation for estimating PM/PM₁₀ emissions from unpaved roads.

Medium and Large Stationary Sources have progressively greater potential PM/PM₁₀ emissions and, thus, require progressively more rigorous non-process dust control measures in order to stay below the 100 ton per year threshold. The non-process dust control requirements indicated in the general permit for a Medium Stationary Source were determined to be reflective of a 50 percent emissions reduction effect, and those for a Large Stationary Source, 75 percent. This is consistent with information contained in the U.S. Environmental Protection Agency guidance document entitled “Control of Open Fugitive Dust Sources” (EPA-450/3-88-008, September 1988). The calculations are summarized in the attachment to this technical support document. [If a Permittee operates a site that fits in the small category, for example, yet typically performs the requirements of medium or large sites, it may be to its advantage to indicate the larger option and keep the associated records and perform the necessary actions, as lower emissions could then be reflected in its annual emission inventory.]

4. The requirement to uniquely label equipment is needed so that compliance determinations can be made. The system of uniquely identifying each piece of equipment will also assist the Permittee in making sure that all the proper notices and initial performance tests are made.
5. This requirement is needed in order to assure that the Permittee attains and maintains compliance with the Subpart OOO NSPS. Even though the Permittee may already be in compliance with Subpart OOO, having submitted the notices and done the testing, this information is needed at the time of general permit application (and ongoing if additional equipment is acquired or used) to obtain an inventory of the Permittee's NSPS affected facilities. For individual permits, Permittees are required, however, to retain sufficient records (cross-referenced with a unique identifying number) to demonstrate that a piece of equipment is not subject to Subpart OOO even though this information is not submitted. Form NM-EQ is provided in the application forms and to the Permittee for ongoing use, along with instructions, to facilitate the submittal and tracking of this information, both

between the Permittee and the MPCA Air Quality Division, as well as between the Permittee and any of its contractors or subcontractors.

6. The Permittee is required to notify the MPCA Air Quality Division, using the NM-RE form found in the application forms and provided to the Permittee for ongoing use with the general permit, of each change in location of a stationary source, establishment of a new stationary source location, or change in a capacity/dust control option at an individual stationary source. [To clarify, the Permittee is required to submit forms(s) NM-RE at the time of application and then ongoing (as clarified in a post-public notice revision of the form). The Permittee can indicate an anticipated date range in the form. If the Permittee remains beyond the date range, then another NM-RE needs to be submitted.]

2.4 Table A.4: Limits that Apply to NSPS Crushers

Requirement or Condition:

Opacity: less than 15 percent opacity

Factual or Legal Basis:

40 CFR § 60.672(c) and Minn. R. 7011.3350

Comments:

The applicability of Subpart OOO is explained in the instructions to form NM-EQ found in the application package and provided to the Permittee for ongoing use with the general permit. Crushers not subject to NSPS are subject to the limits in Table A.6.

2.5 Table A.5: Limits that Apply to other Equipment Subject to NSPS

Requirement or Condition:

Opacity: less than 10 percent opacity

Factual or Legal Basis:

40 CFR § 60.672(b) and Minn. R. 7011.3350

Comments:

The applicability of Subpart OOO is explained in the instructions to form NM-EQ. Equipment not subject to the NSPS are subject to the limits in Table A.6.

2.6 Table A.6: Limits that Apply to Equipment not Subject to NSPS

Requirement or Condition:

Opacity:

- For equipment put in operation on or after July 9, 1969: less than 20 percent opacity.
- For equipment put in operation before July 9, 1969: less than 20 percent opacity except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60-minute period and 40 percent opacity shall be permissible for four additional minutes in any 60-minute period.

Factual or Legal Basis:

Minn. R. 7011.0715, subp. 1(B) and Minn. R. 7011.0710, subp. 1(B), respectively.

Comments:

These are the opacity limits contained in the Minnesota industrial process equipment rule.

2.7 Table A.7: NSPS Notification and Testing Requirements for Equipment Newly Subject to NSPS (Subpart OOO) and Submittal Requirements for Replacements

Requirement or Condition:

- 1. Construction or Reconstruction**
- 2. Anticipated Initial Startup**
- 3. Actual Initial Startup**
- 4. Initial Performance Testing**
- 5. Performance Test Notification**
- 6. Replacement**

Factual or Legal Basis:

1. 40 CFR § 60.7(a)(1) and Minn. R. 7019.0100.
2. 40 CFR § 60.7(a)(2) and Minn. R. 7019.0100.
3. 40 CFR § 60.7(a)(3) and Minn. R. 7019.0100.
4. 40 CFR §§ 60.8(a), 60.675, 60.676, Minn. R. 7017.2015, and Minn. R. 7011.3350.
5. 40 CFR § 60.8(d), and Minn. R. 7017.2015.
6. 40 CFR §§ 60.670(d), 60.676, and Minn. R. 7011.3350.

Comments:

These are the standard NSPS notification and initial performance test requirements which are required. (U.S. EPA is contemplating certain revisions to Subpart OOO at the time of drafting this general permit. Among the possible changes could be the removal of some of the initial notifications for Subpart OOO affected facilities. If and when these changes are promulgated, the general permit will be revised to reflect the changes.) Form NM-EQ, included in the

application package and provided to the Permittee for ongoing use with the general permit, is to be used for these notifications. A standardized test plan (form NM-TP) has been developed for use by the Permittee with this general permit.

2.8 Table A.8: Requirements and Limits that Apply to Stationary Internal Combustion Engines at Each Stationary Source

Requirement or Condition:

- 1. Allowed Fuels:** Diesel fuel, natural gas, liquefied petroleum gas (LPG)/propane, and gasoline, subject to the limitation described in the general permit. No other fuels shall be used.
- 2. Opacity:** not to exceed 20 percent opacity for more than ten consecutive seconds once operating temperatures have been obtained.

Factual or Legal Basis:

- Title I Condition. Limit to avoid classification as major source and modification under 40 CFR § 52.21 and Minn. R. 7007.3000; limit to avoid major source classification under 40 CFR § 70.2 and Minn. R. 7007.0200; to ensure compliance with Minn. R. 7011.2300, subp. 2; Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100.
- Minn. R. 7011.2300, subp. 1.

Comments:

- For each stationary source location covered by this general permit, the Permittee needs to monthly record the amount of each fuel used during the previous month and do the calculation on the Stationary Internal Combustion Engines Fuel Use form (NM-EN) in Appendix I by the 15th of the following month. The result must be less than 100 if the Permittee does the calculation on a 12-month rolling basis, or 100/12 on an individual monthly sum. For those Permittees doing rolling sums, the method of compliance demonstration during the first 12 months is as described above for the annual production limit. The Permittee may elect to make and record this calculation in a different format, but it must include the same information. As indicated on NM-EN, the Permittee may also elect to just sum fuel use itself, without the calculation, if only one fuel is used. The NM-EN form parallels the RP-C2 form used for engines under registration permit option C. This fuel use limitation keeps the PTE of NO_x, SO₂, CO and VOCs for a stationary source covered by this general permit under 100 tons per year. CO is the controlling pollutant for gasoline, and NO_x controls for the others. The fuel limitation also ensures compliance with SO₂ standard in the state standard of performance for internal combustion engines. Since diesel fuel with a sulfur content greater than 0.5 percent is unavailable in Minnesota, a requirement for vendor certification and recordkeeping was not included in the general permit. Burning diesel fuel up to its limit at a stationary source is the worst case for PM emissions and was accounted for in the overall emissions calculations for PM included in the attachments to this technical support document.

2. This is the visible air contaminants limit in the state standard of performance for stationary internal combustion engines.

2.9 Table A.9: Limits and Requirements that Apply to Volatile Organic Liquid Storage Tanks (Must be Insignificant Activities) Which are Subject to 40 CFR pt. 60, subp. Kb

Requirements or Condition:

1. **Tank size:** Any volatile organic liquid storage tank constructed, reconstructed, or modified after July 23, 1984, must have a design capacity less than 75 m³ (19,815 gallons).
2. **Records:** For each tank, keep records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Retain records for the life of the tank.

Factual or Legal Basis:

1. Minn. Stat. § 116.07, subd. 4a, Minn. R. 7007.0800, subp. 2, and Minn. R. 7007.1100
2. 40 CFR §§ 60.116(b) and 60.116b(a), and Minn. R. 7011.1520(C)

Comments:

1. and 2. All storage tanks at a stationary source covered by this general permit must be insignificant activities as defined in Minn. R. 7007.1300, subp. 2 and 3. Some such tanks, however, are subject to this recordkeeping requirement under 40 CFR pt. 60, subp. Kb. Larger and newer tanks are subject to more complicated requirements and are not as common in the nonmetallic mineral processing industry. For these reasons, they are not eligible for coverage under this general permit.

As a footnote to Section 2 of this technical support document, it warrants mentioning that although the ambient air quality standards, and increment and visibility requirements are not specifically mentioned in the general permit, the general permit considers them by not allowing them to be covered by the permit shield.

3. Application Content

A tailored permit application has been developed, as provided by Minn. R. 7007.1100, subp. 5, for the purposes of this general permit. The following table is a summary of how the standard application forms were modified, removed, or replaced for the general permit application.

Form	Comments
CP-01 Cover Page	Retained but simplified to show the pre-filled response (applying for a state general permit). On all the forms the AQD File No. is requested, if known, along with the Company Name. This is a slight change from the standard forms to reflect that the general permit may cover multiple stationary sources that the Permittee may have which qualify.
CR-01 Certification	Retained
CR-02 Hood Certification	Removed as not applicable to this general permit.
CR-03 Confidentiality Certification	Retained
IA-01 Insignificant Activities	Retained with those not required and those required to be listed indicated on a single form with space available for the applicant to list those required to be listed.
GI-01 Facility Information	Retained with certain answers pre-filled
GI-02 Process Flow Diagram	Removed as not necessary at time of application. The general permit may cover multiple stationary sources which frequently change. The Permittee is limited to a certain number of equipment, or is required to keep an up-to-date record (e.g., a site plan or process flow diagram), for each stationary source covered by the general permit as described in the general permit.
GI-03 Facility and Stack/Vent Diagram	Removed as not necessary. (See comment for GI-02.)
GI-04 Stack/Vent Information	Removed as not necessary. (See comment for GI-02.)
GI-05A Pollution Control Equipment Information	Removed as not applicable to this general permit.
GI-05B Emission Unit Information	Not used. Information needed for this general permit is obtained with the NSPS Equipment Description and Notification form (NM-EO)
GI-05C Tank Information	Removed as not applicable to this general permit. The only tanks allowed are those which are insignificant activities.
GI-05D Fugitive Emission Source Information	Removed as not necessary for this general permit. The types of sources of fugitive emissions are known for those stationary sources eligible for this general permit and are described among the eligibility requirements. Fugitive emissions control requirements are included in the general permit.

GI-07 Facility Emissions Summary, EC series of Emission Calculation Forms	Removed as not necessary for issuance of this general permit.
GI-09 Requirements Form	Removed as not needed for this general permit. The applicable requirements were identified during the development of the general permit and are indicated in the general permit. The NM-QU Qualifications Review List form used for this general permit can be considered a kind of replacement for this form. The NM-QU form walks the applicant through a series of questions to determine eligibility for this general permit. The questions relate to conditions, requirements, and limits contained in the general permit.
CD-01 Compliance Plan	Removed because required information is included in the general permit.
CD-02 Compliance Certification	Retained but slightly tailored for use with this general permit.
CD-03 Compliance Schedule	Removed as not applicable to this general permit. Any past noncompliance that prospective applicants might have will be resolved and tracked through the voluntary compliance initiative for the aggregate processing industry for those applications received by the application deadline. For applications received after the deadline, the application will be forwarded to the Air Quality Division Compliance and Enforcement Section to resolve the noncompliance prior to issuance of the general permit to the Permittee.
ME-01 Continuous Monitoring System Information	Removed as not applicable to this general permit.
MI-01 Building and Structure Information	Removed as not applicable to this general permit.

3. Other Requirements Which Were Determined not to Apply to this General Permit

- National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories

Certain NESHAPs for source categories may apply to stationary sources having a PTE greater than 10 tpy of any single HAP or 25 tpy of any combination of HAPs, as provided in 40 CFR pt. 63. If stationary sources trigger these thresholds, they may be subject to these requirements. In addition, some NESHAPs apply to stationary sources with PTE less than 10 or 25 tpy of HAPs.

The U.S. EPA has identified a list of stationary sources known to emit HAPs, that will be subject to maximum achievable control technology (MACT) standards in 40 CFR pt. 63. The identified source categories that could affect this general permit include stationary internal combustion

engines. U.S. EPA's estimated promulgation date for this NESHAP is November 15, 1997. When these rules are finalized and promulgated, stationary sources with equipment subject to the standards will be required to comply. If necessary, the general permit will be amended at that time. Due to the limits on fuel use associated with stationary internal combustion engines in the general permit, stationary sources covered by this general permit likely will not be subject to this potential NESHAP for sources categories.

Other NESHAPs requirements are provided in 40 CFR pt. 61 and in Minn. R. 7011.9900-7011.9990. Stationary sources with processes and equipment subject to these requirements are not eligible for this general permit. Therefore, these standards are not contained in the application or general permit.

- Prevention of Accidental Releases

The prevention of actual releases program requirements are provided in 40 CFR pt. 68 and Section 112(r) of the Clean Air Act. The U.S. 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. It was concluded that the nonmetallic mineral processing stationary sources eligible for coverage under this general permit do not produce, process, handle, store, or use the listed substances in the quantities listed. Therefore, these requirements do not apply and were not included in the application or general permit.

- Acid Rain Program

Acid rain program requirements are provided in the 1990 Clean Air Act Amendments (CAAA), Sections 401-416. These requirements are for power utilities with a generating capacity of more than 25 megawatts and are not applicable to the stationary sources that are eligible to receive this general permit. Therefore, these requirements are not included in the application or general permit.

- 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 are not applicable to the stationary sources that are eligible to receive this general permit. Therefore, these requirements are not included in the application or general permit.

- Monitoring, Analysis, and Recordkeeping

Monitoring, analysis, and record keeping (enhanced monitoring) requirements are provided in 1990 CAAA, Sections 504(b) and 114 (a)(3). Enhanced monitoring will not apply to sources eligible for this general permit, since this general permit is a state permit. Therefore, these requirements are not included in the application or general permit.

- Solid Waste Combustion

Solid waste combustion requirements are provided in the 1990 CAAA, Section 129. These requirements are to be for municipal solid waste incinerations and incinerators of hospital, medical, and infectious waste and are not applicable to nonmetallic mineral processing stationary sources. Therefore, they are not included in the application or general permit.

- Federal Ozone Measures for the Control of Emissions from Certain Sources

Federal ozone measures for the control of emissions from certain sources are provided in the 1990 CAAA. These requirements are to be for manufacturing, processing, distributing, or importing consumer or commercial products that emit VOCs and are not applicable to nonmetallic mineral processing stationary sources. Therefore, they are not included in the application or general permit.

- Tank Vessel Standards

Tank vessel requirements are provided in the 1990 CAAA, Section 183(f). These requirements are to be for stationary sources loading or unloading floating tank vessels and are not applicable to nonmetallic mineral processing stationary sources. Therefore, they are not included in the application or general permit.

5. Conclusion

The MPCA has reasonable assurance that the draft Air Emission General Permit for Nonmetallic Mineral Processing, as described in this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Attachments: Emissions Calculations and Summaries
[Public Notice Correspondence]
[Voluntary Compliance Program Letter]
[Training Manual Table of Contents]

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NONMETALLIC MINERAL PROCESSING GENERAL PERMIT, STATIONARY SOURCE DESIGNATION MATRIX

TABLE 1 [“Table A” in Tech. Supp. Doc.] – Annual Production versus Numbers of Units

Number of Units			Stationary Source Annual Production (tons) – Up to:								
Crushers	Screens	Transfer Operations	1,000,000 <u>Qualifies as:</u>	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000
1	1	10	small	small	small	medium	medium	medium	medium	medium	large
2	2	20	small	small	small	medium	medium	medium	large	large	large
3	3	30	small	small	medium	medium	medium	large	large	large	not allowed
4	4	40	small	small	medium	medium	large	large	not allowed	not allowed	not allowed
5	5	50	small	medium	medium	large	large	not allowed	not allowed	not allowed	not allowed
6	6	60	small	medium	medium	large	not allowed	not allowed	not allowed	not allowed	not allowed
7	7	70	small	medium	large	not allowed	not allowed	not allowed	not allowed	not allowed	not allowed
8	8	80	medium	medium	large	not allowed	not allowed	not allowed	not allowed	not allowed	not allowed

Stationary sources, using Table 1, with over 3,000,000 tons per year throughput or with more than 8 crushers, 8 screens or 80 transfer operations are not allowed under this general permit. Not allowed (in both Tables 1 and 2) means not authorized by this general permit.

TABLE 2 [“Table B” in Tech. Supp. Doc.] – Annual Production versus In-Place Capacity

Cumulative In-Place Capacity (tph)			Stationary Source Annual Production (tons) – Up to:								
Crushers	Screens	Transfer Operations	1,000,000 <u>Qualifies as:</u>	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000
750	750	7,500	small	small	medium	medium	medium	large	large	large	not allowed
1,250	1,250	12,500	medium	medium	medium	medium	large	large	not allowed	not allowed	not allowed
2,500	2,500	25,000	large	large	large	large	large	not allowed	not allowed	not allowed	not allowed

Stationary sources, using Table 2, with cumulative capacities above 2,500 tons per hour (tph) for crushers or for screens or above 25,000 tph for transfer operations are not allowed under this general permit.

If Table 2 is used for determining the stationary source designation, in order to demonstrate compliance with the cumulative capacity limitation, the Permittee must keep an up-to-date record (e.g., a site plan or process flow diagram) showing the cumulative in-place capacity of each equipment type at the stationary source. This record does not need to identify specific unique identifying numbers for pieces of equipment. It may be generic in nature, but must be sufficiently detailed to determine the cumulative capacity of all equipment types at the stationary source.

Nonmetallic Mineral Processing General Permit, Emissions Summary Table

		Throughput, tons per year										
		500,000	750,000	1,000,000	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000
	1,1,10	Small	Small	Small	Small	Small	Medium	Medium	Medium	Medium	Medium	Large
Equipment		2.9	4.3	5.7	7.2	8.6	10.0	11.4	12.9	14.3	15.7	17.1
Fugitive Roads		21.8	32.7	43.5	54.4	65.3	38.1	43.5	49.0	54.4	59.9	32.7
Fugitive Piles		2.2	3.3	4.4	5.4	6.5	7.6	8.7	9.8	10.9	12.0	13.1
Diesel Eng		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SUM		34.0	47.4	60.7	74.1	87.5	62.8	70.7	78.8	86.7	94.7	70.0
	2,2,20	Small	Small	Small	Small	Small	Medium	Medium	Medium	Large	Large	Large
Equipment		5.7	8.6	11.4	14.3	17.1	20.0	22.8	25.7	28.5	31.4	34.2
Fugitive Roads		21.8	32.7	43.5	54.4	65.3	38.1	43.5	49.0	27.2	29.9	32.7
Fugitive Piles		2.2	3.3	4.4	5.4	6.5	7.6	8.7	9.8	10.9	12.0	13.1
Diesel Eng		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SUM		36.8	51.7	66.4	81.2	96.0	72.8	82.1	91.6	73.7	80.4	87.1
	3,3,30	Small	Small	Small	Small	Medium	Medium	Medium	Large	Large	Large	NA
Equipment		58.6	12.8	17.1	21.4	25.7	30.0	34.3	38.6	42.8	47.0	51.3
Fugitive Roads		21.8	32.7	43.5	54.4	32.7	38.1	43.5	24.5	27.2	29.9	32.7
Fugitive Piles		2.2	3.3	4.4	5.4	6.5	7.6	8.7	9.8	10.9	12.0	13.1
Diesel Eng		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SUM		39.7	55.9	72.1	88.3	72.0	82.8	93.6	80.0	88.0	96.0	104.2
	4,4,40	Small	Small	Small	Small	Medium	Medium	Large	Large	NA	NA	NA
Equipment		11.4	17.1	22.8	28.5	34.2	40.0	45.6	51.3	57.0	62.7	68.4
Fugitive Roads		21.8	32.7	43.5	54.4	32.7	38.1	21.8	24.5	27.2	29.9	32.7
Fugitive Piles		2.2	3.3	4.4	5.4	6.5	7.6	8.7	9.8	10.9	12.0	13.1
Diesel Eng		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SUM		42.5	60.2	77.8	95.4	80.5	92.8	83.2	92.7	102.2	111.7	121.3
	5,5,50	Small	Small	Small	Medium	Medium	Large	Large	NA	NA	NA	NA
Equipment		14.3	21.4	28.5	35.7	42.8	50.0	57.0	64.1	71.3	78.4	85.5
Fugitive Roads		21.8	32.7	43.5	27.2	32.7	19.0	21.8	24.5	27.2	29.9	32.7
Fugitive Piles		2.2	3.3	4.4	5.4	6.5	7.6	8.7	9.8	10.9	12.0	13.1
Diesel Eng		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SUM		45.4	64.5	83.5	75.4	89.1	83.7	94.6	105.5	116.5	127.4	138.4

		500,000	750,000	1,000,000	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000
	6,6,60	Small	Small	Small	Medium	Medium	Large	NA	NA	NA	NA	NA
Equipment		17.1	25.7	34.2	42.8	51.3	60.0	68.4	77.0	85.5	94.1	102.6
Fugitive Roads		21.8	32.7	43.5	27.2	32.6	19.0	21.8	24.5	27.2	29.9	32.7
Fugitive Piles		2.2	3.3	4.4	5.4	6.5	7.6	8.7	9.8	10.9	12.0	13.1
Diesel Eng		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SUM		48.2	68.8	89.2	82.5	97.5	93.7	106.0	118.4	130.7	143.1	155.5
	7,7,70	Small	Small	Small	Medium	Large	NA	NA	NA	NA	NA	Na
Equipment		20.0	29.9	39.9	49.9	59.9	69.8	79.8	89.8	99.8	109.7	119.7
Fugitive Roads		21.8	32.7	43.5	27.2	16.3	19.0	21.8	24.5	27.2	29.9	32.7
Fugitive Piles		2.2	3.3	4.4	5.4	6.5	7.6	8.7	9.8	10.9	12.0	13.1
Diesel Eng		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SUM		51.1	73.0	94.9	89.6	89.8	103.5	117.4	131.2	145.0	158.7	172.6
	8,8,80	Small	Small	Medium	Medium	Large	NA	NA	NA	NA	NA	NA
Equipment		22.8	34.2	45.6	57.0	68.4	79.8	91.2	102.6	114.0	125.4	136.8
Fugitive Roads		21.8	32.7	21.8	27.2	16.3	19.0	21.8	24.5	27.2	29.9	32.7
Fugitive Piles		2.2	3.3	4.4	5.4	6.5	7.6	8.7	9.8	10.9	12.0	13.1
Diesel Eng		7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SUM		53.9	77.3	78.9	96.7	98.3	113.5	128.8	144.0	159.2	174.4	189.7

Nonmetallic Mineral Processing General Permit, Process Emission Calculations

Process PM Emissions, tpy												
		Throughput, tons per year:										
Operation	No.	500,000	750,000	1,000,000	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000
Crushers	1	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4
Screens	1	2.1	3.2	4.2	5.3	6.3	7.4	8.4	9.5	10.5	11.6	12.6
Transfer Operations	10	0.4	0.5	0.7	0.9	1.1	1.2	1.4	1.6	1.8	1.9	2.1
SUM		2.9	4.3	5.7	7.1	8.6	10.0	11.4	12.8	14.3	15.7	17.1
Crushers	2	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8
Screens	2	4.2	6.3	8.4	10.5	12.6	14.7	16.8	18.9	21.0	23.1	25.2
Transfer Operations	20	0.7	1.1	1.4	1.8	2.1	2.5	2.8	3.2	3.5	3.9	4.2
SUM		5.7	8.6	11.4	14.3	17.1	20.0	22.8	25.7	28.5	31.4	34.2
Crushers	3	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
Screens	3	6.3	9.5	12.6	15.8	18.9	22.1	25.2	28.4	31.5	34.7	37.8
Transfer Operations	30	1.1	1.6	2.1	2.6	3.2	3.7	4.2	4.7	5.3	5.8	6.3
SUM		8.6	12.8	17.1	21.4	25.7	29.9	34.2	38.5	42.8	47.0	51.3
Crushers	4	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6
Screens	4	8.4	12.6	16.8	21.0	25.2	29.4	33.6	37.8	42.0	46.2	50.4
Transfer Operations	40	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4
SUM		11.4	17.1	22.8	28.5	34.2	39.9	45.6	51.3	57.0	62.7	68.4
Crushers	5	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
Screens	5	10.5	15.8	21.0	26.3	31.5	36.8	42.0	47.3	52.5	57.8	63.0
Transfer Operations	50	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5
SUM		14.3	21.4	28.5	35.6	42.8	49.9	57.0	64.1	71.3	78.4	85.5
Crushers	6	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4
Screens	6	12.6	18.9	25.2	31.5	37.8	44.1	50.4	56.7	63.0	69.3	75.6
Transfer Operations	60	2.1	3.2	4.2	5.3	6.3	7.4	8.4	9.5	10.5	11.6	12.6
SUM		17.1	25.7	34.2	42.8	51.3	59.9	68.4	77.0	85.5	94.1	102.6
Crushers	7	2.8	4.2	5.6	7.0	8.4	9.8	11.2	12.6	14.0	15.4	16.8
Screens	7	14.7	22.1	29.4	36.8	44.1	51.5	58.8	66.2	73.5	80.9	88.2
Transfer Operations	70	2.5	3.7	4.9	6.1	7.4	8.6	9.8	11.0	12.3	13.5	14.7
SUM		20.0	29.9	39.9	49.9	59.9	69.8	79.8	89.8	99.8	109.7	119.7
Crushers	8	3.2	4.8	6.4	8.0	9.6	11.2	12.8	14.4	16.0	7.6	19.2
Screens	8	16.8	25.2	33.6	42.0	50.4	58.8	67.2	75.6	84.0	92.4	100.8
Transfer Operations	80	2.8	4.2	5.6	7.0	8.4	9.8	11.2	12.6	24.0	15.4	16.8
SUM		22.8	34.2	45.6	57.0	68.4	79.8	91.2	102.6	114.0	125.4	136.8

Nonmetallic Mineral Processing General Permit												
Fugitive Emissions Calculations												
Unpaved Roads												
Silt, s, %	4.8		$E [lb/VMT] = k(5.9)(s/12)(S/30)(W/3)^{0.7}(w/4)^{0.5}((365-p)/365)$									
Wheels, w	10		(AP-42 Fifth Edition Chapter 12.2.2)									
Avg Wgt., W, ton	20											
Speed, S, mph	10											
k, size mult.	0.8		(k for PM10 = 0.36)									
p, precip, days	111											
E, lb PM/VMT	2.613											
VMT/load	0.5											
lb PM/load	1.306											
ton/load	15											
lb PM/ton	0.0871	No emissions reduction effect (Small)										
lb PM/ton	0.0435	50% emissions reduction effect (Medium)										
lb PM/ton	0.0218	75% emissions reduction effect (Large)										
		Processing Rate or Throughput, tons per year:										
		500,000	750,000	1,000,000	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000
PM Fugitive Emissions, tpy:												
No reduction effect		21.8	32.7	43.5	54.4	65.3	76.2	87.1	98.0	108.9	119.8	130.6
50% reduction effect		10.9	16.3	21.8	27.2	32.7	38.1	43.5	49.0	54.4	59.9	65.3
75% reduction effect		5.4	8.2	10.9	13.6	16.3	19.1	21.8	24.5	27.2	29.9	32.7
Piles												
k, size mult.	0.74		$E = k(0.0032)[((U/5)^{1.3})/((M/2)^{1.4})]$									
U, Avg Wind Speed mph	10		(AP-42 Fifth Edition Chapter 13.2.4)									
M, Moisture Content %	1.5											
E, lb/ton	0.00872		(k for PM10 = 0.35)									
		Processing Rate or Throughput, tons per year:										
		500,000	750,000	1,000,000	1,250,000	1,500,000	1,750,000	2,000,000	2,250,000	2,500,000	2,750,000	3,000,000
PM Fugitive Emissions, tpy:		2.2	3.3	4.4	5.5	6.5	7.6	8.7	9.8	10.9	12.0	13.1

Nonmetallic Mineral Processing General Permit
Process Emission Calculations

Process Emission Factors:

(For PM, July 1994 Revision to AP-42 Fourth Edition Chapter 11.19.2 (renumbered from 8.19.2))
(For PM₁₀ emissions inventory purposes, AP-42 Fifth Edition Chapter 11.19.2)
(Controlled, or with wet suppression, factors as moisture content is required to be greater than or equal to 1.5%)

	PM	PM10
	<u>lb/ton</u>	<u>lb/ton</u>
Crushers	0.0016	0.00059
Screens	0.0084	0.00084
Transfer Operations	0.00014	0.000048

Nonmetallic Mineral Processing General Permit Emissions Calculations for Stationary Internal Combustion Engines

(See Form NM-EN in Appendix 1 of General Permit for Which this is the Basis)

Emission Factors from AIRs (EPA 450/4-90-003):

	PM lb/unit	PM10 lb/unit	SO2 lb/unit	NOx lb/unit	Co lb/unit	VOCs lb/unit	Units
Diesel Fuel	0.0335	0.032	0.0312	0.469	0.102	0.0321	Gallons
Natural Gas	0.00001	0.00001	0.0000006	0.0034	0.00043	0.0000829	Cubic Feet
Liquefied Petroleum Gas (LPG)/Propane	0.005	0.005	0.00035	0.139	0.129	0.083	Gallons
Gasoline	0.00647	0.0062	0.00531	0.102	3.994	0.147	Gallons

Fuel	Controlling Pollutant	Multiplying Factor	Rounded Up	Corresponding Max. Fuel Use	Units
Diesel Fuel	NO _x	2.3450E-04	2.35E-04	425,532	Gallons
Natural Gas	NO _x	1.7000E-06	1.70E-06	58,823,529	Cubic Feet
Propane	NO _x	6.9500E-05	6.95E-05	1,438,849	Gallons
Gasoline	CO	1.9970E-03	2.00E-03	50,000	Gallons

The part 70 permit threshold for all pollutants is 100 tons per year and no scaling needed.

The multiplying factor equals the emission factor of the controlling pollutant divided by 2000 pounds per ton.

If a combination of fuels are used, the calculation required by form NM-EN (patterned after registration permit form RP-C2) leads to a conservative limit.

The worst-case PM emissions from burning all diesel fuel up to its limit is 7.1 tons per year.

Emissions Summary (in tons/year) for Burning Each Fuel up to its Maximum Limit:

	PM	PM10	SO2	NOx	CO	VOCs
Diesel Fuel	7.1	6.8	6.6	99.8	21.7	6.8
Natural Gas	0.3	0.3	0.0	100.0	12.6	2.4
Propane	3.6	3.6	0.3	100.0	92.8	59.7
Gasoline	0.2	0.2	0.1	2.6	99.9	3.7