

New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants

Written by the Wisconsin Department of Natural Resources

December 1998

Publication #: PUBL-AM-288-98

This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

What are New Source Performance Standards?

New Source Performance Standards (NSPS) are federal standards established under section 111 of the Clean Air Act (42 USC 7411). New Source Performance Standards (NSPS) reflect the degree of emission limitation available through application of the best adequately demonstrated technological system of continuous emission reduction, taking into account the cost of achieving such emission reduction, any non-air quality health and environmental impacts, and energy requirements. The EPA has written many NSPS for many different industries. The federal NSPS for Nonmetallic Mineral Processing Plants is listed in 40 CFR Part 60, Subpart OOO. (CFR is an abbreviation for Code of Federal Regulations).

Wisconsin typically adopts the federal NSPS into its regulations. The NSPS for Nonmetallic Mineral Processing Plants is contained in section NR 440.688, Wis. Adm. Code.

Purpose of this document

This document gives you a broad overview of the NSPS for Nonmetallic Mineral Processing Plants -- you are encouraged to read it and to contact the Department's staff. For a more thorough discussion of this issue, please contact your regional air engineer.

If you own or operate one or more crushing or grinding plants, you may be affected by this NSPS. This NSPS is not intended for stand-alone screen or wash plants, pits, or quarries. This NSPS does not apply to any plant that does not have the capability to crush or grind.

This NSPS applies to you only if and when you process nonmetallic minerals. The definition of nonmetallic mineral includes sand and gravel and crushed and broken stone. Most asphalt and concrete contains more than 50% nonmetallic mineral by weight and such materials are also classified as a nonmetallic mineral and so this NSPS also applies to these operations.

There are certain other NSPS regulations that might affect businesses in the aggregate industry. These include the NSPS for Metallic Mineral Processing (s. NR 440.525, Wis. Adm. Code) and the NSPS for Calcining or Drying of certain minerals such as feldspar, industrial sand, lightweight aggregate, roofing granules and other specific minerals (40 CFR, Part 60, Subpart UUU).

Where do these regulations apply?

The Nonmetallic Mineral Processing Plant NSPS requirements apply to most types of processing equipment manufactured after August 31, 1983. The manufacturer could be a typical manufacturer such as Allis-Chalmers. The manufacturer could be you if, for example, you built a storage bin. For this NSPS, equipment means each crusher, grinding mill, screening operation, grizzly, bucket elevator, transfer point (transfer to or from a conveyor), bagging operation, storage bin, enclosed truck or railcar loading station.

This NSPS also applies to equipment that was manufactured on or before August 31, 1983 and was either modified or reconstructed after August 31, 1983. An increase in production rate of equipment involving a capital expenditure, replacing a control device with another system which is less efficient, or converting from wet to dry operation are probably the most likely ways a modification would cause an existing piece of equipment to become subject to this NSPS. Reconstruction of equipment means the replacement of components (over a 2-year period) to such an extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost of comparable new equipment.

What equipment is subject to NSPS?

This NSPS applies to equipment that is listed above. It does not apply to vehicles such as trucks or front-end loaders. It also does not apply to the use of diesel engines either in generator sets or directly in the processing equipment.

Truck dumping of nonmetallic mineral into any screening operation, feed hopper or crusher is exempt from the opacity requirements. Care must be taken during opacity compliance determinations to exclude opacity observations made during truck dumping to such equipment. Also, grizzlies associated with truck dumping are exempt from opacity requirements and test requirements.

Equipment that is operated at the following plants is not subject to the NSPS:

1. Fixed sand and gravel plants and crushed stone plants with capacities (as defined in this NSPS) of 25 tons per hour or less; or,
2. Portable sand and gravel plants and crushed stone plants with capacities (as defined in this NSPS) of 150 tons per hour or less.

This NSPS defines capacity as the cumulative rated capacity of all initial crushers that are part of the plant (the initial crusher means any crusher or grinder into which material can be fed without prior crushing or grinding in the plant, see s. NR 440.688(2)(n), Wis. Adm. Code). Cumulative means that you add up the capacities of all initial crushers at the plant. Note that if the crusher is onsite and is capable of being operated, its rated capacity must be included.

Rated capacity means the manufacturer's rated capacity at a wide open setting, open circuit with clean rock. It does not mean the capacity at which you typically operate.

This NSPS defines a portable plant to mean there is no processing equipment (equipment specified in this NSPS) that is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Also, when a piece of equipment is replaced by one of equal or smaller rated capacity having the same function as the existing equipment, the new equipment may be exempt from this NSPS

except for some requirements to notify the Department and the EPA. Refer to s. NR 440.688, Wis. Adm. Code, for the details of this exemption and the notification requirements. Note that this does not apply if all equipment in a production line is replaced.

“production line” means all pieces of equipment which are directly connected or are connected together by a conveying system

“conveying system” means equipment used for transporting materials from one piece of equipment or location to another location and includes feeders, conveyors, elevator or pneumatic systems. It does not include mobile units like trucks or loaders.

Also this replacement exemption can only be used for a one-for-one replacement (for example replacing one 100 ton per hour piece of equipment with two 50 ton per hour pieces is not exempt).

What are the NSPS requirements?

There are four types of requirements in the NSPS. These include notification, record keeping, and emission standards and test requirements. This document only covers the fugitive dust requirements. If you use a baghouse or a scrubber or a similar device you should review the requirements for that piece of equipment.

What are the NSPS notification and record keeping requirements?

You must submit written notification to DNR and keep written records of the following:

initial start-up:	postmarked within 15 days of startup
anticipated date of testing:	postmarked not less than 30 days prior to testing and at least 20 business days prior to the test
start of reconstruction:	postmarked no later than 30 days after reconstruction is started
start of modification:	postmarked 60 days or as soon as practicable before the modification is started

What emission standards for fugitive dust are in this NSPS?

You must meet opacity emissions standards. These standards are as follows:

10% opacity for all NSPS equipment (screens, transfer points, etc.) except crushers.

15% opacity for crushers.

No visible emissions from wet (saturated) screening and subsequent screening, bucket elevators and belt conveyors that process saturated material in the production line up to the next crusher, grinder or storage.

No visible emissions from screening, bucket elevators and belt conveyors that process saturated material in the production line downstream from wet mining operations (at or below the water table) and where the mineral is saturated up to the first crusher, grinder or storage bin in the production line.

“saturated” means to soak or load to or beyond capacity.

“opacity” refers to the density of the cloud of dust that is emitted from the NSPS equipment or transfer point. Basically, the easier it is to see through the cloud of dust the lower the opacity. Opacity needs to be determined by a certified visible emissions reader.

Opacity limits apply to any inlet and any outlet of any piece of equipment

What are the NSPS test requirements?

Within 60 days after achieving the maximum production rate at which the equipment will be operated, but not later than 180 days after initial start-up of the equipment, you must conduct performance tests and furnish the department a written report of the results of the performance tests. Initial start up does not mean you have to test every time you move your equipment or each new construction season.

This is a one-time test. It does not need to be done every year and usually does not need to be repeated when there is a change in ownership of the equipment (if the test was done out of state check with your region Department representative). Be sure to obtain and keep copies of NSPS testing for your equipment.

Please refer to the previous section regarding opacity requirements.

What options do I have regarding the NSPS test requirements?

Your options include hiring a consultant or performing the test yourself. (A list of possible consultants is available from the Department of Commerce. You can call their fax line and have forms sent to your fax machine. Dial (608) 264-6154 and follow the directions. Request forms numbered 918 and 603).

If you want to complete NSPS testing yourself, there are basically four steps you need to take if you want to do the test yourself. The steps are very briefly described below. You can obtain sample forms and more information from the air management program at either your region office or the Bureau of Air Management in Madison.

- Step 1 Send some staff to Smoke School to obtain certification in the EPA method of reading opacity. It is up to each company to determine how many individuals should be certified at Smoke School. Smoke School is a two-day exercise that is provided every April and October. Contact the Minnesota Air Pollution Control Agency (test site is in the Minneapolis area; fee is required) or Wisconsin DNR -- Andy Seeber at (608)267-0563 (test sites are Milwaukee and Ladysmith; it's free) to register. Both states offer classroom training session the day before the two day smoke school (Minnesota has a fee for this).
- Step 2 Prepare a Test Plan and send it to DNR. This must be done at least 20 business days and postmarked at least 30 days prior to the test. This furnishes DNR notification so that DNR can witness the test, if it so chooses.
- Step 3 Do the test. Do the test according to the NSPS and EPA Method 9 requirements and keep records that are needed to describe the plant operation and layout at the time of opacity observations.

Note that the duration of the test may be reduced from three hours to one hour if no individual readings are greater than the applicable standard and no more than three readings are at the opacity standard (either 10% or 15%)

- Step 4 Prepare the test report and submit it to the DNR.

Who do I call if I need further information regarding NSPS?

Call Keith Pierce of the DNR's Bureau of Air Management at 608-267-0562.