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Part VII. Source/Category Specific Emission Limits for Existing and New Sources

Section 3.0 Nonmetallic Mineral Mining and Processing

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1.0 APPLICABILITY

The provisions of this Section apply to any commercial and/or industrial nonmetallic mineral mining and/or rock product plant, concrete batch plant, hot mix asphalt plant, and vermiculite and/or perlite processing plant operation. Compliance with the provisions of this Section shall not relieve any person subject to the requirements of this Section from complying with any other standards including the New Source Performance Standards in Part II (Permit Requirements). In such case, the more stringent standard shall apply.

1.1 Prohibitions.

- A.** No person shall sell, offer for sale, use or apply the following materials for paving, construction, or maintenance of highways, streets, driveways, parking lots or for any other use to which this Section applies:
 - 1.** Rapid cure cutback asphalt.
 - 2.** Any cutback asphalt material, road oils, or tar which contains more than 0.5 percent by volume VOCs which evaporate at 500 degrees Fahrenheit (260 degrees Celsius) or less using ASTM Test Method D 402-02.

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3. Any emulsified asphalt or emulsified tar containing more than 3.0 percent by volume VOCs which evaporate at 500 degrees Fahrenheit (260 degrees Celsius) or less as determined by ASTM Method D 244-00.

B. No person shall burn any “off specification fuel oil” as defined in subsection 2.0 of this Section.

C. Any fuel oil combusted must meet the following requirements:

1. All used oil combusted must be certified as on-specification.

2. Used oil ash content shall not exceed 0.15 percent by weight.

1.2 **Exemptions.** The provisions of this Section shall not apply to:

A. Asphalt that is used solely as a penetrating prime coat and which is not a rapid cure cutback asphalt. Penetrating prime coats do not include dust palliatives or tack coats.

B. Any asphalt/bituminous material sold for shipment and use outside GRIC if the person claiming such exemption clearly labels each container of materials entitled to such exemption or upon request (during normal business hours) immediately provides the Director with shipping records demonstrating the asphalt material is not for use within GRIC.

C. A person may use up to three (3) percent solvent-VOC by volume for batches of asphalt rubber which cannot meet paving specifications by adding heat alone only if request is made to the Director, who shall evaluate such requests on a case-by-case basis. The Director shall not approve such requests unless complete records are kept and full information is supplied including savings realized by using discarded tires. The Director shall not approve such requests when it would cause a person to exceed 1100 lbs (500 kg) usage of solvent-VOC in asphalt rubber in a calendar year.

2.0 **Definitions.**

“Asphaltic Concrete Plant” or “Asphalt Plant” or “Hot Mix Asphalt Plant” means any facility used to manufacture asphaltic concrete by mixing graded aggregate and asphaltic cements.

“Bagging Operation” means the mechanical process by which bags are filled with nonmetallic minerals.

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“**Belt Conveyor**” means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

“**Bucket Elevator**” means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

“**Calciner**” means the equipment used to remove combined (chemically bound) water and/or gases from mineral material through direct or indirect heating. This definition includes expansion furnaces.

“**Capture System**” means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more process operations to a control device.

“**Concrete Plant**” means any facility used to manufacture concrete by mixing water, aggregate, and cement.

“**Control Device**” means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more process operations at a nonmetallic mineral processing plant.

“**Conveying System**” means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include, but are not limited to, the following: feeders, belt conveyors, bucket elevators and pneumatic systems.

“**Crusher**” means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

“**Cutback Asphalt**” means an asphalt cement liquified with a VOC-containing solvent.

“**Cutback Tar**” means a tar liquified with a VOC-containing solvent.

“**Dryer**” means the equipment used to remove uncombined (free) water from mineral material through direct or indirect heating.

“**Dry Mix Concrete Plant**” means any facility used to manufacture a mixture of aggregate and cements without the addition of water.

“**ECS**”: means emissions control system.

“**Enclosed Truck or Railroad Loading Station**” means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

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“Fugitive Emission(s)” means any emission which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

“Grinding Mill” means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

“Nonmetallic Mineral” means any of the following minerals or any mixture of which the majority is any of the following minerals:

- A. Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.
- B. Sand and Gravel.
- C. Clay including Kaolin, Fireclay, Bentonite, Fullers Earth, Ball Clay, and Common Clay.
- D. Rock Salt.
- E. Gypsum.
- F. Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.
- G. Pumice.
- H. Gilsonite.
- I. Talc and Pyrophyllite.
- J. Boron, including Borax, Kernite, and Colemanite.
- K. Barite.
- L. Fluorospar.
- M. Feldspar.
- N. Diatomite.
- O. Perlite.
- P. Vermiculite.

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Q. Mica.

R. Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

“Nonmetallic Mineral Processing Plant” means a facility utilizing any combination of equipment or machinery that is used to mine, excavate, separate, combine, crush, or grind any nonmetallic mineral, including, but not limited to: lime plants, coal fired power plants, steel mills, asphalt plants, concrete plants, Portland cement plants, and sand and gravel plants. Rock Product Processing Plants are included in this definition.

“Non-Specification Used Oil” means used oil which meets the specifications established in the solid waste rules at 40 C.F.R. Part 279, Standards for the Management of Used Oil. These specifications include:

<u>Constituent/Property</u>	<u>Allowable Level</u>
Arsenic	5 ppmw maximum
Cadmium	2 ppmw maximum
Chromium	10 ppmw maximum
Lead	100 ppmw maximum
Flash point	100 degrees Fahrenheit minimum
Total halogens	1000 ppmw maximum

“Penetrating Prime Coat” means the low viscosity liquid asphalt or tar applied to a relatively absorbent surface to prepare it for new superimposed construction. Prime coats do not include dust palliatives or tack coats.

“Rapid Cure Cutback Asphalt” means a cutback asphalt which falls generally within the specifications of ASTM designation D 2028-97 and which generally cures more quickly than medium cure cutback asphalt.

“Screening Operation” means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens).

“Stack Emissions” means the particulate matter emissions that are released to the atmosphere from a capture system from a building vent, stack, or other point source discharge.

“Storage Bin” means a facility for storage (including surge bins) or nonmetallic minerals prior to further processing or loading.

“Transfer Point” means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

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“**Truck Dumping**” means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include, but are not limited to: trucks, front-end loaders, skip hoists, and railcars.

“**Vent**” means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter.

3.0 EMISSION LIMITATIONS AND STANDARDS

3.1 Limitations: Nonmetallic Mineral Processing Plants and Concrete Batch Plants.

- A. Visible Emissions. No person subject to this Section shall cause, permit or allow to be discharged into the ambient air:
 - 1. Visible emissions from any material handling system, conveyance system transfer point, storage silo, surge bin, screening operation, or nonmetallic mineral loading/unloading operation associated with a capture and collection system and vented through a stack exceeding seven (7) percent opacity.
 - 2. Visible emissions from any conveying transfer point exceeding seven (7) percent opacity.
 - 3. Visible emissions from any crusher or crushing operation without a capture and collection system exceeding fifteen (15) percent opacity.

- B. Fugitive Emissions. No person subject to this Section shall cause, permit or allow to be discharged into the ambient air:
 - 1. Fugitive emissions from any affected operation or process exceeding ten (10) percent opacity, except as provided in this paragraph B.2. and 3. below.
 - 2. Fugitive emissions from truck dumping of nonmetallic minerals into a screening operation, feed hopper, or crusher, exceeding twenty (20) percent opacity.
 - 3. Fugitive emissions from any other affected operation or process source exceeding twenty (20) percent opacity.

- C. Particulate Matter Emissions. No person subject to this Section shall cause, permit or allow to be discharged into the ambient air:
 - 1. PM emissions from any material handling system, conveyance system transfer point, storage silo, surge bin, screening operation, or

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nonmetallic mineral loading/unloading operation associated with a capture and collection system and vented through a stack exceeding 0.02 gr/dscf (0.05 g/dscm).

2. PM emissions from any crusher or crushing operation with a capture and collection system exceeding 0.02 gr/dscf (0.05 g/dscm).

3.2 Limitations: Hot Mix Asphalt Plants. No person shall cause, permit or allow to be discharged into the ambient air, emissions in excess of the following limitations:

- A. Visible emissions from any dryer exceeding twenty (20) percent opacity.
- B. PM emissions from any dryer exceeding 0.04 gr/dscf (0.09 g/dscm).

3.3 Limitations: Vermiculite and Perlite Processing. Except as to an affected facility subject to conditions under Part II, Section 7.0, no person shall cause, permit or allow to be discharged into the ambient air emissions in excess of the following:

- A. Visible emissions from any calciner (including exfoliation furnaces and expansion furnaces) or dryer exceeding ten (10) percent opacity.
- B. PM emissions from any calciner (including exfoliation furnaces and expansion furnaces) exceeding 0.040 gr/dscf (0.092 g/dscm).
- C. PM emissions from any dryer exceeding 0.025 gr/dscf (0.057 g/dscm).

4.0 EMISSIONS CONTROL REQUIREMENTS

Any person subject to this Section shall install and operate a wet dust suppression system (e.g., spray bars on transfer points and sprinklers on stock piles) or other control method approved by the Department in order to minimize fugitive dust emissions from any material handling system, conveyance system transfer point, screening operation or crusher without a capture and collection system, and nonmetallic mineral loading/unloading operation. This requirement does not apply to materials with sufficient moisture content to prevent visible emissions in excess of the limits in subsection 3.0 of this Section.

5.0 ADMINISTRATIVE REQUIREMENTS

5.1 Operation and Maintenance (O&M) Plan Requirements for an ECS.

- A. Any owner or operator using an emissions control system to reduce emissions in accordance with this section shall provide to the Department for approval an Operation and Maintenance Plan (“O&M Plan”) at the time the initial permit application is submitted to the Department for an operating permit. The owner or operator shall maintain a copy of the O&M Plan on site. The

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O&M Plan shall describe the ECS monitoring devices and indicate temperatures, rates of flow, and other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained. The O&M Plan shall also describe the procedures to properly install and maintain these devices in calibration, in good working order and in operation.

- B. An owner or operator of a facility operating an ECS pursuant to this Section shall install, maintain, and calibrate monitoring devices described in the O&M Plan. The monitoring devices shall measure pressures, rates of flow, and/or other operating conditions necessary to determine if the control devices are functioning properly.
- C. An owner or operator of a facility subject to the O&M Plan requirements set forth in this Section shall fully comply with each O&M Plan that the owner or operator has submitted for approval, including all actions and schedules identified therein, even if such O&M Plan has not been approved, unless otherwise notified in writing by the Department.

6.0 MONITORING AND RECORDS

6.1 Recordkeeping and Reporting. An owner or operator subject to this Section shall comply with the following recordkeeping requirements:

- A. A daily record of plant operational data shall be kept for each day that a plant is actively operating. Records shall include the following:
 - 1. Production Data:
 - a. Hours of operation;
 - b. Type of batch operation(s);
 - c. Throughput per day of basic raw materials including sand, aggregate, cement, vermiculite, perlite (tons/day);
 - d. Volume and weight of final and intermediate products produced per day;
 - e. Weight of aggregate mined per day (cu. yds./day);
 - f. Kind and amount of fuel consumed in any and all combustion sources (cu. ft./day or gals./day) and fuel sulfur content (for liquid and solid fuel - may be vendor supplied);

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- g. Kind and amount of any back-up fuel (if any);
- h. The number of bags of dry mix produced per day; weight (size) of bags of dry mix produced per day.
- 2. Control And Monitoring Device Data:
 - a. Baghouse records shall include dates of inspection, dates and designation of bag replacement, dates of service or maintenance, related activities, static pressure gauge (manometer) readings once per eight-hour shift.
 - b. Scrubber records shall include dates of service or maintenance related activities; the scrubbing liquid flow rate; the pressure or head loss; and/or any other operating parameters which need to be monitored to assure that the scrubber is functioning properly and operating within design parameters.
 - c. Records of time, date and cause of all control device failure and down time shall also be maintained.
- 3. ECS O&M Plan Records:
 - a. Maintain a record of the periods of time that an approved ECS is utilized to comply with this Section. Key system parameters, such as flow rates, pressure drops, and other conditions necessary to determine if the control equipment is functioning properly, shall be recorded in accordance with an approved O&M Plan. The records shall account for any periods when the control system was not operating. The owner or operator of a facility shall also maintain results of the visual inspection and, if necessary, shall record any corrective action taken.
- B. Operational information required by this Section shall be kept in a complete and consistent manner on site and be made available without delay to the Department upon request.
- C. Records shall be retained for five (5) years and shall be made available to the Department upon request.

7.0 COMPLIANCE DETERMINATION

7.1 Compliance with PM Emissions. Compliance with PM emission limitations shall be determined using EPA Methods 1 - 5, 40 C.F.R. Part 60, Appendix A or, alternatively, Method 17 may be used if approved by the Department pursuant to a

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complete source monitoring/test protocol. Performance testing and monitoring required by this Section shall be performed in accordance with the time frames and methodology contained in 40 C.F.R., Part 60, Appendix A or other applicable federal requirements. For facilities not required to conduct performance testing under federal regulation, the frequency for conducting performance testing shall be, at a minimum, once every five (5) years or at a more frequent interval as determined by the Director. Performance testing requirements shall be established on a case by case basis through the development of an O&M Plan in accordance with subsection 5.1 of this Section.

- 7.2 Compliance with Opacity Limitations.** Compliance with opacity limitations shall be determined using Method 9, 40 C.F.R. Part 60, Appendix A, except the opacity observations for intermittent visible emissions shall require twelve (12) rather than twenty-four (24) consecutive readings at fifteen (15) second intervals. Alternatively, Method 22 may be used if approved by the Department pursuant to a complete source monitoring/test protocol. The frequency of opacity readings shall be determined on a source-by-source basis and listed in the source's permit. Frequencies and locations for conducting visible emissions readings shall be prescribed in each facility permit, but shall be no less frequently than once per month. Each facility shall provide for a certified opacity observer to conduct visible emissions readings at locations and on a schedule specified in each individual facility permit