~~**R18-2-614. Evaluation of Nonpoint Source Emissions**~~

~~Opacity of an emission from any nonpoint source shall not be greater than 40% measured according to the 40 CFR 60, Appendix A, Reference Method 9. An open fire permitted under R18-2-602 or regulated under Article 15 is exempt from this requirement.~~

~~**Historical Note**~~

~~Section R18-2-614 renumbered from R18-2-612; amended by final rulemaking at 11 A.A.R. 2210, effective July 18, 2005 (Supp. 05-2). Amended by final rulemaking at 18 A.A.R. 1542, effective August 7, 2012 (Supp. 12-2).~~

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

R18-2-701. Definitions

For purposes of this Article:

1. "Acid mist" means sulfuric acid mist as measured in the Arizona Testing Manual and 40 CFR 60, Appendix A.
2. "Architectural coating" means a coating used commercially or industrially for residential, commercial or industrial buildings and their appurtenances, structural steel, and other fabrications such as storage tanks, bridges, beams and girders.
3. "Asphalt concrete plant" means any facility used to manufacture asphalt concrete by heating and drying aggregate and mixing with asphalt cements. This is limited to facilities, including drum dryer plants that introduce asphalt into the dryer, which employ two or more of the following processes:
    a. A dryer.
    b. Systems for screening, handling, storing, and weighing hot aggregate.
    c. Systems for loading, transferring, and storing mineral filler.
    d. Systems for mixing asphalt concrete.
    e. The loading, transferring, and storage systems associated with emission control systems.
4. "Black liquor" means waste liquor from the brown stock washer and spent cooking liquor which have been concentrated in the multiple-effect evaporator system.
5. "Boiler" means an enclosed fossil- or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.
6. "Bottoming-cycle cogeneration unit" means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.
7. "Calcine" means the solid materials produced by a lime plant.
8. "Coal" means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite by the ASTM Standard Specification for Classification of Coals by Rank D388-77, 90, 91, 95, or 98a.
9. "Coal-derived fuel" means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal or chemical processing of coal.
10. "Coal-fired" means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year.
11. "Cogeneration unit" means a stationary coal-fired boiler or stationary coal-fired combustion turbine:
    a. Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and
    b. Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after which the unit first produces electricity:
        i. For a topping-cycle cogeneration unit: useful thermal energy not less than 5% of total energy output; and useful power that, when added to one-half of useful thermal energy produced, is not less than 42.5% of total energy input, if useful thermal energy produced is 15% or more of total energy output, or not less than 45% of total energy input, if useful thermal energy produced is less than 15% of total energy output; and
        ii. For a bottoming-cycle cogeneration unit, useful power not less than 45% of total energy input.
12. "Combustion turbine" means:
    a. An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and
    b. If the enclosed device under subsection (12)(a) is combined cycle, any associated heat recovery steam generator and steam turbine.
13. "Commercial operation" means the time when the owner or operator supplies electricity for sale or use, including test generation.
14. "Concentrate" means enriched copper ore recovered from the froth flotation process.
15. "Concentrate dryer" means any facility in which a copper sulfide ore concentrate charge is heated in the presence of air to eliminate a portion of the moisture from the charge, provided less than 5% of the sulfur contained in the charge is eliminated in the facility.
16. "Concentrate roaster" means any facility in which a copper sulfide ore concentrate is heated in the presence of air to eliminate 5% or more of the sulfur contained in the charge.
17. "Condensate stripper system" means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.
18. "Control device" means the air pollution control equipment used to remove particulate matter or gases generated by a process source from the effluent gas stream.
19. "Converter" means any vessel to which copper matte is charged and oxidized to copper.
20. "Electric generating plant" means all electric generating units located at a stationary source.
21. "Electric generating unit" means:
    a. A stationary, coal-fired boiler or stationary coal-fired combustion turbine, other than a boiler or turbine that qualifies as a cogeneration unit, serving at any time since the start-up of a unit's combustion chamber a generator with nameplate capacity of more than 25 megawatts electric producing electricity for sale. If a unit qualifies as a cogeneration unit during the 12-month period starting the date the unit first produces electricity but subsequently no longer qualifies as a cogeneration unit, the unit shall be an electric generating unit on the day which the unit no longer qualifies as a cogeneration unit.
    b. A cogeneration unit serving at any time a generator with nameplate capacity of more than 25 megawatts and supplying in any calendar year more than one-

third of the unit's potential electric output capacity or 219,000 megawatt-hours, whichever is greater, to any utility power distribution system for sale.

22. "Existing electric generating plant" means all electric generating units located at a stationary source during a control period other than units that have not been allocated allowances to emit mercury pursuant to 40 CFR 60.4142(b) for that control period.
23. "Existing source" means any source which does not have an applicable new source performance standard under Article 9 of this Chapter.
24. "Facility" means an identifiable piece of stationary process equipment along with all associated air pollution equipment.
25. "Fugitive dust" means fugitive emissions of particulate matter.
26. "High sulfur oil" means fuel oil containing 0.90% or more by weight of sulfur.
27. "Incremental best available control technology" means an emission limitation based on the maximum degree of additional reductions, if any, in mercury beyond those achieved by existing controls installed under R18-2-724(F), taking into account incremental energy, environmental, and economic impacts, market prices of mercury allowances, balance of plant impacts, and other incremental costs, determined by the Director to be achievable and to be compatible with existing control technology installed at the electric generating unit. Incremental best available control technology shall be determined on a case-by-case basis and shall not be more stringent than the limits in R18-2-734(B).
28. "Inlet mercury" means the average concentration of mercury in the coal burned at an electric generating unit, as determined by ASTM methods, EPA-approved methods or alternative methods approved by the Director.
29. "Lime kiln" means a unit used to calcinate lime rock or kraft pulp mill lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.
30. "Low sulfur oil" means fuel oil containing less than 0.90% by weight of sulfur.
31. "Matte" means a metallic sulfide made by smelting copper sulfide ore concentrate or the roasted product of copper sulfide ores.
32. "Mercury" means mercury or mercury compounds in either a gaseous or particulate form.
33. "Miscellaneous metal parts and products" for purposes of industrial coating include all of the following:
    a. Large farm machinery, such as harvesting, fertilizing and planting machines, tractors, and combines;
    b. "Small farm machinery, such as lawn and garden tractors, lawn mowers, and rototillers;
    c. Small appliances, such as fans, mixers, blenders, crock pots, dehumidifiers, and vacuum cleaners;
    d. Commercial machinery, such as office equipment, computers and auxiliary equipment, typewriters, calculators, and vending machines;
    e. Industrial machinery, such as pumps, compressors, conveyor components, fans, blowers, and transformers;
    f. Fabricated metal products, such as metal-covered doors and frames;
    g. Any other industrial category which coats metal parts or products under the Code in the "Standard Industrial Classification Manual, 1987" of Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (non-electric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), and Major Group 39 (miscellaneous manufacturing industries), except all of the following:
        i. Automobiles and light-duty trucks;
        ii. Metal cans;
        iii. Flat metal sheets and strips in the form of rolls or coils;
        iv. Magnet wire for use in electrical machinery;
        v. Metal furniture;
        vi. Large appliances;
        vii. Exterior of airplanes;
        viii. Automobile refinishing;
        ix. Customized top coating of automobiles and trucks, if production is less than 35 vehicles per day;
        x. Exterior of marine vessels.
34. "Multiple-effect evaporator system" means the multiple-effect evaporators and associated condenser and hotwell used to concentrate the spent cooking liquid that is separated from the pulp.
35. "Nameplate capacity" means, starting from the initial installation of a generator, the maximum electrical generating output (in megawatts) that an electric generating unit is capable of producing on a steady-state basis during continuous operation as specified by the manufacturer.
36. "Neutral sulfite semichemical pulping" means any operation in which pulp is produced from wood by cooking or digesting wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating or grinding.
37. "Petroleum liquids" means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery but does not mean Number 2 through Number 6 fuel oils as specified in ASTM D396-90a (Specification for Fuel Oils), gas turbine fuel oils Numbers 2-GT through 4-GT as specified in ASTM D2880-90a (Specification for Gas Turbine Fuel Oils), or diesel fuel oils Numbers 2-D and 4-D as specified in ASTM D975-90 (Specification for Diesel Fuel Oils).
38. "Potential electric output capacity" means 33% of a unit's maximum design heat input, divided by 3,413 Btu per kilowatt-hour, divided by 1,000 kilowatt-hours/per megawatt-hour, and multiplied by 8,760 hours per year.
39. "Process source" means the last operation or process which produces an air contaminant resulting from either:
    a. The separation of the air contaminants from the process material, or
    b. The conversion of constituents of the process materials into air contaminants which is not an air pollution abatement operation.
40. "Process weight" means the total weight of all materials introduced into a process source, including fuels, where these contribute to pollution generated by the process.
41. "Process weight rate" means a rate established pursuant to R18-2-702(E).
42. "Recovery furnace" means the unit, including the direct-contact evaporator for a conventional furnace, used for burning black liquor to recover chemicals consisting primarily of sodium carbonate and sodium sulfide.
43. "Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquified petroleum gases, as determined by ASTM D-323-90 (Test Method for Vapor Pressure of Petroleum Products) (Reid Method).

44. "Reverbatory smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided primarily by combustion of a fossil fuel.
45. "Rotary lime kiln" means a unit with an included rotary drum which is used to produce a lime product from limestone by calcination.
46. "Slag" means fused and vitrified matter separated during the reduction of a metal from its ore.
47. "Smelt dissolving tank" means a vessel used for dissolving the smelt collected from the kraft mill recovery furnace.
48. "Smelter feed" means all materials utilized in the operation of a copper smelter, including metals or concentrates, fuels and chemical reagents, calculated as the aggregate sulfur content of all fuels and other feed materials whose products of combustion and gaseous by-products are emitted to the atmosphere.
49. "Smelting" means processing techniques for the smelting of a copper sulfide ore concentrate or calcine charge leading to the formation of separate layers of molten slag, molten copper, or copper matte.
50. "Smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided by an electric current, rapid oxidation of a portion of the sulfur contained in the concentrate as it passes through an oxidizing atmosphere, or the combustion of a fossil fuel.
51. "Standard conditions" means a temperature of 293K (68°F or 20°C) and a pressure of 101.3 kilopascals (29.92 in. Hg or 1013.25 mb).
52. "Supplementary control system" (SCS) means a system by which sulfur dioxide emissions are curtailed during periods when meteorological conditions conducive to ground-level concentrations in excess of ambient air quality standards for sulfur dioxide either exist or are anticipated.
53. "Topping-cycle cogeneration unit" means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.
54. "Total energy output" means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.
55. "Vapor pressure" means the pressure exerted by the gaseous form of a substance in equilibrium with its liquid or solid form.

Historical Note

Former Section R18-2-701 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-701 renumbered from R18-2-501 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 12 A.A.R. 4701, effective January 29, 2007 (Supp. 06-4). Amended by final rulemaking at 18 A.A.R. 1542, ~~effective August 7, 2012 (Supp. 12-2)~~.

~~R18-2-702. General Provisions~~

A. The provisions of this Article shall only apply to a source that is all of the following:

1. An existing source, as defined in R18-2-101;
2. A point source. For the purposes of this Section, "point source" means a source of air contaminants that has an ~~identifiable plume or emissions point; and~~
3. ~~A stationary source, as defined in R18-2-101.~~

B. Except as otherwise provided in this Chapter relating to specific types of sources, the opacity of any plume or effluent, from a source described in subsection (A), as determined by Reference Method 9 in 40 CFR 60, Appendix A, shall not be:

1. Greater than 20% in an area that is nonattainment or maintenance for any particulate matter standard, unless an alternative opacity limit is approved by the Director and the Administrator as provided in subsections (D) and (E), after February 2, 2004;
2. Greater than 40% in an area that is attainment or unclassifiable for each particulate matter standard; and
3. After April 23, 2006, greater than 20% in any area that is attainment or unclassifiable for each particulate matter standard except as provided in subsections (D) and (E).

C. If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement in this Article, the exceedance shall not constitute a violation of the applicable opacity limit.

D. A person owning or operating a source may petition the Director for an alternative applicable opacity limit. The petition shall be submitted to ADEQ by May 15, 2004.

1. The petition shall contain:
   a. Documentation that the affected facility and any associated air pollution control equipment are incapable of being adjusted or operated to meet the applicable opacity standard. This includes:
      i. Relevant information on the process operating conditions and the control devices operating conditions during the opacity or stack tests;
      ii. A detailed statement or report demonstrating that the source investigated all practicable means of reducing opacity and utilized control technology that is reasonably available considering technical and economic feasibility; and
      iii. An explanation why the source cannot meet the present opacity limit although it is in compliance with the applicable particulate mass emission rule.
   b. If there is an opacity monitor, any certification and audit reports required by all applicable subparts in 40 CFR 60 and in Appendix B, Performance Specification 1.
   c. A verification by a responsible official of the source of the truth, accuracy, and completeness of the petition. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
2. If the unit for which the alternative opacity standard is being applied is subject to a stack test, the petition shall also include:
   a. Documentation that the source conducted concurrent EPA Reference Method stack testing and visible emissions readings or is utilizing a continuous opacity monitor. The particulate mass emission test results shall clearly demonstrate compliance with the applicable particulate mass emission limitation by being at least 10% below that limit. For multiple units that are normally operated together and whose emissions vent through a single stack, the source shall conduct simultaneous particulate testing of each unit. Each control device shall be in good operating condition and operated consistent with good ~~practices for minimizing emissions.~~

R18-2-702. General Provisions

A. The provisions of this Article shall only apply to a source that is all of the following:

1. An existing source, as defined in R18-2-101;

2. A point source. For the purposes of this Section, "point source" means a source of air contaminants that has an identifiable plume or emissions point; and

3. A stationary source, as defined in R18-2-101.

B. Except as otherwise provided in this Chapter relating to specific types of sources, the opacity of any plume or effluent, from a source described in subsection (A), as determined by Reference Method 9 in 40 CFR 60, Appendix A, shall not be:

1. Greater than 20% in an area that is nonattainment or maintenance for any particulate matter standard, unless an alternative opacity limit is approved by the Director and the Administrator as provided in subsections (D) and (E), after February 2, 2004;

2. Greater than 40% in an area that is attainment or unclassifiable for each particulate matter standard; and

3. After April 23, 2006, greater than 20% in any area that is attainment or unclassifiable for each particulate matter standard except as provided in subsections (D) and (E).

C. If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement in this Article, the exceedance shall not constitute a violation of the applicable opacity limit.

D. A person owning or operating a source may petition the Director for an alternative applicable opacity limit. The petition shall be submitted to ADEQ by May 15, 2004.

1. The petition shall contain:

a. Documentation that the affected facility and any associated air pollution control equipment are incapable of being adjusted or operated to meet the applicable opacity standard. This includes:

i. Relevant information on the process operating conditions and the control devices operating conditions during the opacity or stack tests;

ii. A detailed statement or report demonstrating that the source investigated all practicable means of reducing opacity and utilized control technology that is reasonably available considering technical and economic feasibility; and

iii. An explanation why the source cannot meet the present opacity limit although it is in compliance with the applicable particulate mass emission rule.

b. If there is an opacity monitor, any certification and audit reports required by all applicable subparts in 40 CFR 60 and in Appendix B, Performance Specification 1.

c. A verification by a responsible official of the source of the truth, accuracy, and completeness of the petition. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

2. If the unit for which the alternative opacity standard is being applied is subject to a stack test, the petition shall also include:

a. Documentation that the source conducted concurrent EPA Reference Method stack testing and visible emissions readings or is utilizing a continuous opacity monitor. The particulate mass emission test results shall clearly demonstrate compliance with the applicable particulate mass emission limitation by being at least 10% below that limit. For multiple units that are normally operated together and whose emissions vent through a single stack, the source shall simultaneous particulate testing of each unit. Each control device shall be in good operating condition and operated consistent with good practices for minimizing emissions.

b. Evidence that the source conducted the stack tests according to R18-2-312, and that they were witnessed by the Director or the Director's agent or representative.

c. Evidence that the affected facility and any associated air pollution control equipment were operated and maintained to the maximum extent practicable to minimize the opacity of emissions during the stack tests.

3. If the source for which the alternative opacity standard is being applied is located in a nonattainment area, the petitioner shall include all the information listed in subsections (D)(1) and (D)(2), and in addition:

a. In subsection (D)(1)(a)(ii), the detailed statement or report shall demonstrate that the alternative opacity limit fulfills the Clean Air Act requirement for reasonably available control technology; and

b. In subsection (D)(2)(b), the stack tests shall be conducted with an opportunity for the Administrator or the Administrator's agent or representative to be present.

E. If the Director receives a petition under subsection (D) the Director shall approve or deny the petition as provided below by October 15, 2004:

1. If the petition is approved under subsection (D)(1) or (D)(2), the Director shall include an alternative opacity limit in a proposed significant permit revision for the source under R18-2-320 and R18-2-330. The proposed alternative opacity limit shall be set at a value that has been demonstrated during, and not extrapolated from, testing, except that an alternative opacity limit under this Section shall not be greater than 40%. For multiple units that are normally operated together and whose emissions vent through a single stack, any new alternative opacity limit shall reflect the opacity levelat the common stack exit, and not individual in-duct opacity levels.

2. If the petition is approved under subsection (D)(3), the Director shall include an alternative opacity limit in a proposed revision to the applicable implementation plan, and submit the proposed revision to EPA for review and approval. The proposed alternative opacity limit shall be set at a value that has been demonstrated during, and not extrapolated from, testing, except that the alternative opacity limit shall not be greater than 40%.

3. If the petition is denied, the source shall either comply with the 20% opacity limit or apply for a significant permit revision to incorporate a compliance schedule under R18-2-309(5)(c)(iii) by April 23, 2006.

4. A source does not have to petition for an alternative opacity limit under subsection (D) to enter into a revised compliance schedule under R18-2-309(5)(c).

F. The Director, Administrator, source owner or operator, inspector or other interested party shall determine the process weight rate, as used in this Article, as follows:

1. For continuous or long run, steady-state process sources, the process weight rate is the total process weight for the entire period of continuous operation, or for a typical portion of that period, divided by the number of hours of the period, or portion of hours of that period.

2. For cyclical or batch process sources, the process weight rate is the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during the period.

Historical Note

Former Section R18-2-702 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-702 renumbered from R18-2-502 and amended effective November 15, 1993 (Supp. 93-4). Amended by exempt rulemaking at 9 A.A.R. 5550, effective February 3, 2004 (Supp. 03-4).

   - a. ~~In subsection (D)(1)(a)(ii), the detailed statement or report shall demonstrate that the alternative opacity limit fulfills the Clean Air Act requirement for reasonably available control technology; and~~
   - b. ~~In subsection (D)(2)(b), the stack tests shall be conducted with an opportunity for the Administrator or the Administrator's agent or representative to be present.~~

E. ~~If the Director receives a petition under subsection (D) the Director shall approve or deny the petition as provided below by October 15, 2004:~~

1. ~~If the petition is approved under subsection (D)(1) or (D)(2), the Director shall include an alternative opacity limit in a proposed significant permit revision for the source under R18-2-320 and R18-2-330. The proposed alternative opacity limit shall be set at a value that has been demonstrated during, and not extrapolated from, testing, except that an alternative opacity limit under this Section shall not be greater than 40%. For multiple units that are normally operated together and whose emissions vent through a single stack, any new alternative opacity limit shall reflect the opacity level at the common stack exit, and not individual in-duct opacity levels.~~
2. ~~If the petition is approved under subsection (D)(3), the Director shall include an alternative opacity limit in a proposed revision to the applicable implementation plan, and submit the proposed revision to EPA for review and approval. The proposed alternative opacity limit shall be set at a value that has been demonstrated during, and not extrapolated from, testing, except that the alternative opacity limit shall not be greater than 40%.~~
3. ~~If the petition is denied, the source shall either comply with the 20% opacity limit or apply for a significant permit revision to incorporate a compliance schedule under R18-2-309(5)(c)(ii) by April 23, 2006.~~
4. ~~A source does not have to petition for an alternative opacity limit under subsection (D) to enter into a revised compliance schedule under R18-2-309(5)(c).~~

F. ~~The Director, Administrator, source owner or operator, inspector or other interested party shall determine the process weight rate, as used in this Article, as follows:~~

1. ~~For continuous or long run, steady-state process sources, the process weight rate is the total process weight for the entire period of continuous operation, or for a typical portion of that period, divided by the number of hours of the period, or portion of hours of that period.~~
2. ~~For cyclical or batch process sources, the process weight rate is the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during the period.~~

~~Historical Note~~

~~Former Section R18-2-702 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-702 renumbered from R18-2-502 and amended effective November 15, 1993 (Supp. 93-4). Amended by exempt rulemaking at 9 A.A.R. 5550, effective February 3, 2004 (Supp. 03-4).~~

R18-2-703. Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment

A. This Section applies to the following:

1. Installations in which fuel is burned for the primary purpose of producing power, steam, hot water, hot air or other liquids, gases or solids and in the course of doing so the products of combustion do not come into direct contact with process materials. When any products or by-products of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitation shall apply, except for wood waste burners as regulated under R18-2-704.
2. All fossil-fuel fired steam generating units or general fuel burning equipment which are greater than or equal to 73 megawatts capacity.

B. For purposes of this Section, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The heat content of solid fuel shall be determined in accordance with R18-2-311. Compliance tests shall be conducted during operation at the nominal rated capacity of each unit.

C. No person shall cause, allow or permit the emission of particulate matter in excess of the amounts calculated by one of the following equations:

1. For equipment having a heat input rate of 4200 million Btu per hour or less, the maximum allowable emissions shall be determined by the following equation:

   $E = 1.02Q^{0.769}$

   where:

   E = the maximum allowable particulate emissions rate in pounds-mass per hour.

   Q = the heat input in million Btu per hour.
2. For equipment having a heat input rate greater than 4200 million Btu per hour, the maximum allowable emissions shall be determined by the following equation:

   $E = 17.0Q^{0.432}$

   where "E" and "Q" have the same meaning as in subsection (C)(1).

D. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

E. When low sulfur oil is fired:

1. Existing fuel-burning equipment or steam-power generating installations which commenced construction or a major modification prior to May 30, 1972, shall not emit more than 1.0 pounds sulfur dioxide maximum three-hour average, per million Btu (430 nanograms per joule) heat input.
2. Existing fuel-burning equipment or steam-power generating installations which commenced construction or a major modification after May 30, 1972, shall not emit more than 0.80 pounds of sulfur dioxide maximum three-hour average per million Btu (340 nanograms per joule) heat input.

F. When high sulfur oil is fired, all existing steam-power generating and general fuel-burning installations which are subject to the provisions of this Section shall not emit more than 2.2 pounds of sulfur dioxide maximum three-hour average per million Btu (946 nanograms per joule) heat input.

G. When solid fuel is fired:

1. Existing general fuel-burning equipment and steam-power generating installations which commenced construction or a major modification prior to May 30, 1972, shall not emit more than 1.0 pounds of sulfur dioxide maximum three-hour average, per million Btu (430 nanograms per joule) heat input.
2. Existing general fuel-burning equipment and steam-power generating installations which commenced construction or a major modification after May 30, 1972, shall not emit more than 0.80 pounds of sulfur dioxide, maximum three-hour average, per million Btu (340 nanograms per joule) heat input.

H. Any permit issued for the operation of an existing source, or any renewal or modification of such a permit, shall include a condition prohibiting the use of high sulfur oil by the permittee, unless the applicant demonstrates to the satisfaction of the Director that sufficient quantities of low sulfur oil are not available for use by the source and that it has adequate facilities and contingency plans to ensure that the sulfur dioxide ambient air quality standards set forth in R18-2-202 will not be violated.

1. The terms of the permit may authorize the use of high sulfur oil under such conditions as are justified.
2. In cases where the permittee is authorized to use high sulfur oil, it shall submit to the Department monthly reports detailing its efforts to obtain low sulfur oil.
3. When the conditions justifying the use of high sulfur oil no longer exists, the permit shall be modified accordingly.
4. Nothing in this Section shall be construed as allowing the use of a supplementary control system or other form of dispersion technology.

I. Existing steam-power generating installations which commenced construction or a major modification after May 30, 1972, shall not emit nitrogen oxides in excess of the following amounts:

1. 0.20 pounds of nitrogen oxides, maximum three-hour average, calculated as nitrogen dioxide, per million Btu heat input when gaseous fossil fuel is fired.
2. 0.30 pounds of nitrogen oxides, maximum three-hour average, calculated as nitrogen dioxide, per million Btu heat input when liquid fossil fuel is fired.
3. 0.70 pounds of nitrogen oxides, maximum three-hour average, calculated as nitrogen dioxide, per million Btu heat input when solid fossil fuel is fired.

J. Emission and fuel monitoring systems, where deemed necessary by the Director for sources subject to the provisions of this Section shall, conform to the requirements of R18-2-313.

K. The applicable reference methods given in the Appendices to 40 CFR 60 shall be used to determine compliance with the standards as prescribed in subsections (C) through (G) and (I). All tests shall be run at the heat input calculated under subsection (B).

Historical Note

Former Section R18-2-703 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-703 renumbered from R18-2-503 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 13 A.A.R. 2157, effective August 4, 2007 (Supp. 07-2). Amended by final rulemaking at 15 A.A.R. 281~~, effective March 7, 2009 (Supp. 09-1)~~.

R18-2-704. Standards of Performance for Incinerators

A. No person shall cause, allow or permit to be emitted into the atmosphere, from any type of incinerator, smoke, fumes, gases, particulate matter or other gas-borne material which exceeds 20% opacity except during the times specified in subsection (D).

B. No person shall cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any incinerator, in excess of the following limits:

1. For multiple chamber incinerators, controlled atmosphere incinerators, fume incinerators, afterburners or other unspecified types of incinerators, emissions shall not exceed 0.1 grain per cubic foot, based on dry flue gas at standard conditions, corrected to 12% carbon dioxide.
2. For wood waste burners other than air curtain destructors, emissions discharged from the stack or burner top opening shall not exceed 0.2 grain per cubic foot, based on dry flue gas at standard conditions, corrected to 12% carbon dioxide.

C. Air curtain destructors shall not be used within 500 feet of the nearest dwelling.

D. Incinerators shall be exempt from the opacity and emission requirements described in subsections (A) and (B) as follows:

1. For multiple chamber incinerators, controlled atmosphere incinerators, fume incinerators, afterburners or other unspecified types of incinerators, such exemption shall be for not more than 30 seconds in any 60-minute period.
2. Wood waste burners shall be exempt both:
   a. For a period once each day for the purpose of building a new fire but not to exceed 60 minutes, and
   b. For an upset of operations not to exceed three minutes in any 60-minute period.

E. The owner or operator of any incinerator subject to the provisions of this Section shall record the daily charging rates and hours of operation.

F. The test methods and procedures required by this Section are as follows:

1. The reference methods in 40 CFR 60, Appendix A, shall be used to determine compliance with the standards prescribed in subsection (B) as follows:
   a. Method 5 for the concentration of particulate matter and the associated moisture content;
   b. Method 1 for sample and velocity traverses;
   c. Method 2 for velocity and volumetric flow rate;
   d. Method 3 for gas analysis and calculation of excess air, using the integrated sampling technique.
2. For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 0.85 dscm (30.0 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Director.

Historical Note

Former Section R18-2-704 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-704 renumbered from R18-2-504 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 13 A.A.R. 2157, ~~effective August 4, 2007 (Supp. 07-2)~~.

~~R18-2-705. Standards of Performance for Existing Portland~~ Cement Plants

A. The provisions of this Section are applicable to the following affected facilities in portland cement plants: kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading and unloading systems.

B. No person shall cause, allow or permit the discharge of particulate matter from any identifiable process source within any existing cement plant subject to the provisions of this Section which exceeds the amounts calculated by one of the following equations:

1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

P = the process weight rate in tons-mass per hour.

2. For process sources having a process weight rate greater ~~than 60,000 pounds per hour (30 tons per hour), the max-~~

~~which exceeds the amounts calculated by one of the following equations:~~

1. ~~For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:~~

   ~~$E = 4.10P^{0.67}$~~

   ~~where:~~

   ~~E = the maximum allowable particulate emissions rate in pounds-mass per hour.~~

   ~~P = the process weight rate in tons-mass per hour.~~
2. ~~For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:~~

   ~~$E = 55.0P^{0.11} - 40$~~

   ~~where "E" and "P" are defined as indicated in subsection (B)(1).~~

C. ~~No process source within any portland cement plant shall exceed 20% opacity.~~

D. ~~No person shall cause, allow or permit discharge into the atmosphere of an amount in excess of 6 pounds of sulfur oxides, calculated as sulfur dioxide, per ton cement kiln feed from cement plants subject to the provisions of this Section.~~

E. ~~The owner or operator of any portland cement plant subject to the provisions of this Section shall record the daily production rates and the kiln feed rates.~~

F. ~~The test methods and procedures required by this Section are as follows:~~

1. ~~The reference methods in 40 CFR 60, Appendix A, except as provided for in R18-2-312 shall be used to determine compliance with the standards prescribed in subsection (B) as follows:~~
   - a. ~~Method 5 for the concentration of particulate matter and the associated moisture content;~~
   - b. ~~Method 1 for sample and velocity traverses;~~
   - c. ~~Method 2 for velocity and volumetric flow rate;~~
   - d. ~~Method 3 for gas analysis.~~
2. ~~For Method 5, the minimum sampling time and minimum sample volume for each run except when process variables or other factors justifying otherwise to the satisfaction of the Director, shall be as follows:~~
   - a. ~~60 minutes and 0.85 dscm (30.0 dscf) for the kiln,~~
   - b. ~~60 minutes and 1.15 dscm (40.6 dscf) for the clinker cooler.~~
3. ~~Total kiln feed rate, except fuels, expressed in metric tons per hour on a dry basis, shall be both:~~
   - a. ~~Determined during each testing period by suitable methods; and~~
   - b. ~~Confirmed by a material balance over the production system.~~
4. ~~For each run, particulate matter emissions, expressed in g/metric ton of kiln feed, shall be determined by dividing the emission rate in g/hr by the kiln feed rate. The emission rate shall be determined by the equation, g/hr = Qs x c, where Qs = volumetric flow rate of the total effluent in dscm/hr as determined in accordance with subsection (F)(1)(c), and c = particulate concentration in g/dscm as determined in accordance with subsection (F)(1)(a).~~

~~Historical Note~~

~~Former Section R18-2-705 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-705 renumbered from R18-2-505 effective November 15, 1993 (Supp. 93-4).~~

R18-2-706. Standards of Performance for Existing Nitric Acid Plants

A. No person shall cause, allow or permit discharge from any nitric acid plant producing weak nitric acid, which is either:

1. 30 to 70% in strength by either the increased pressure or atmospheric pressure process, or
2. More than 1.5 kg of total oxides of nitrogen per metric ton (3.0 lbs/ton) of acid produced expressed as nitrogen dioxide.

B. The opacity of any plume subject to the provisions of this Section shall not exceed 10%.

C. A continuous monitoring system for the measurement of nitrogen oxides shall be installed, calibrated, maintained and operated by the owner or operator, in accordance with Section R18-2-313.

D. The test methods and procedures required by this Section are as follows:

1. The reference methods in 40 CFR 60, Appendix A shall be used to determine compliance with the standard prescribed in subsection (A) as follows:
   - a. Method 7 for the concentration of NO_x;
   - b. Method 1 for sample and velocity traverses;
   - c. Method 2 for velocity and volumetric flow rate;
   - d. Method 3 for gas analysis.
2. For Method 7, the sample site shall be selected according to Method 1 and the sampling point shall be the centroid of the stack or duct or at a point no closer to the walls than 1 m (3.28 ft.). Each run shall consist of at least four grab samples taken at approximately 15-minute intervals. The arithmetic mean of the samples shall constitute the run value. A velocity traverse shall be performed once per run.
3. Acid production rate, expressed in metric tons per hour of 100% nitric acid, shall be both:
   - a. Determined during each testing period by suitable methods, and
   - b. Confirmed by a material balance over the production system.
4. For each run, nitrogen oxides, expressed in g/metric ton of 100% nitric acid, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation:

   $g/hr = Q_s \times c$

   where Q_s = volumetric flow rate of the effluent in dscm/hr, as determined in accordance with subsection (D)(1)(c), and c = NO_x concentration in g/dscm, as determined in accordance with subsection (D)(1)(a).

Historical Note

Former Section R18-2-706 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-706 renumbered from R18-2-506 ~~effective November 15, 1993 (Supp. 93-4)~~.

R18-2-707. Standards of Performance for Existing Sulfuric Acid Plants

A. Facilities that produce sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfide and mercaptans or acid sludge shall not discharge into the atmosphere:

1. Greater than 2 kg of sulfur dioxide per metric ton (4 lbs/ton) of sulfuric acid produced (calculated as 100% H_2SO_4), or
2. Greater than 0.075 kg of sulfuric acid mist per metric ton (0.15 lbs/ton) of sulfuric acid produced (calculated as 100% H_2SO_4).

B. This Section shall not apply to metallurgical plants or other facilities where conversion to sulfuric acid is utilized as a means of controlling emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

C. A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained and operated by the owner or operator, in accordance with R18-2-313.

D. The test methods and procedures required by this Section are as follows:

1. The reference methods in 40 CFR 60, Appendix A shall be used to determine compliance with standards prescribed in subsection (A) as follows:
   a. Method 8 for concentration of SO_2 and acid mist;
   b. Method 1 for sample and velocity traverses;
   c. Method 2 for velocity and volumetric flow rate;
   d. Method 3 for gas analysis.
2. The moisture content can be considered to be zero. For Method 8 the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 1.15 dscm (40.6 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Director.
3. Acid production rate, expressed in metric tons per hour of 100% H_2SO_4, shall be both:
   a. Determined during each testing period by suitable methods, and
   b. Confirmed by a material balance over the production system.
4. Acid mist and sulfur dioxide emissions, expressed in g/metric ton of 100% H_2SO_4, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation, g/hr-Q_s x c, where Q_s = volumetric flow rate of the effluent in dscm/hr as determined in accordance with subsection (D)(1)(c), and c = acid mist and SO_2 concentrations in g/dscm as determined in accordance with subsection (D)(1)(a).

Historical Note

Former Section R18-2-707 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-707 renumbered from R18-2-507 ~~effective November 15, 1993 (Supp. 93-4)~~.

~~R18-2-708. Standards of Performance for Existing Asphalt~~ Concrete Plants

A. Fixed asphalt concrete plants and portable asphalt concrete plants shall meet the standards set forth in this Section.

B. No person shall cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any existing asphalt concrete plant in total quantities in excess of the amounts calculated by one of the following equations:

1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$

where:

E = the maximum allowable particulate emission rate in pounds-mass per hour.

P = the process weight rate in tons-mass per hour.

2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

~~$E = 55.0P^{0.11} - 40$~~

~~where "E" and "P" are defined as indicated in sub-~~section (B)(1).

C. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

D. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

E. Liquid fuel containing greater than 0.9% sulfur by weight shall not be utilized for asphalt concrete plants subject to this Section.

F. Solid fuel containing greater than 0.5% sulfur by weight shall not be utilized for asphalt concrete plants subject to this Section.

G. The test methods and procedures required under this Section are:

1. The referenced methods given in 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, shall be used to determine compliance with the standards prescribed in subsection (B).
   a. Method 5 for the concentration of particulate matter and the associated moisture content,
   b. Method 1 for sample and velocity traverses,
   c. Method 2 for velocity and volumetric flow rate,
   d. Method 3 for gas analysis.
2. For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Director.
3. Percent sulfur in liquid fuel shall be determined by ASTM method D-129-91 (Test Method for Sulfur in Petroleum Products) (General Bomb Method), and the percent sulfur in solid fuel shall be determined by ASTM method D-3177-89 (Test Method for Total Sulfur in the Analysis Sample of Coal and Coke).

Historical Note

Former Section R18-2-708 repealed effective September 26, 1990 (Supp. 90-3). New Section R18-2-708 renumbered from R18-2-508 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1).

R18-2-709. Standards of Performance for Existing Petroleum Refineries

A. The provisions of this Section are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regenerators, fluid catalytic cracking unit incinerator-waste heat boilers, and fuel gas combustion devices.

B. Except as provided in subsection (G), all petroleum refineries subject to this Section are also subject to the provisions of R18-2-901(12).

C. The owner or operator of a petroleum refinery complex subject to this Section shall develop and conduct a leak monitoring program in accordance with Appendix H of the EPA Petroleum Refinery Enforcement Manual (EPA 340/1-80-008), amended as of March 1980 (and no future editions), which is incorporated herein by reference and on file with the Office of the Secretary of State.

D. Upon detection of a leaking component, which has a volatile organic compound concentration exceeding 10,000 ppm when tested in the manner described in 40 CFR 60, Appendix A, the owner shall both:

1. Include the leaking component on a written list of sched~~uled repairs within 24 hours; and~~

R18-2-710. Standards of Performance for Existing Storage Vessels for Petroleum Liquids

A. No person shall place, store or hold in any reservoir, stationary tank or other container having a capacity of 40,000 (151,400 liters) or more gallons any petroleum liquid having a vapor pressure of 1.5 pounds per square inch absolute or greater under actual storage conditions, unless such tank, reservoir or other container is a pressure tank maintaining working pressure sufficient at all times to prevent hydrocarbon vapor or gas loss to the atmosphere, or is equipped with 1 of the following vapor loss control devices, properly installed, in good working order and in operation:
1. A floating roof consisting of a pontoon type double-deck type roof resting on the surface of the liquid contents and equipped with a closure seal to close the space between the roof eave and tank wall and a vapor balloon or vapor dome, designed in accordance with accepted standards of the petroleum industry. The control equipment shall not be used if the petroleum liquid has a vapor pressure of 12 pounds per square inch absolute or greater under actual storage conditions.
a. All tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.
b. There shall be no visible holes, tears, or other openings in the seal or any seal fabric. Where applicable, all openings except drains shall be equipped with a cover, seal, or lid. The cover, seal, or lid shall be in a closed position at all times, except when the device is in actual use.
c. Automatic bleeder vents shall be closed at all times, except when the roof is floated off or landed on the roof leg supports.
d. Rim vents, if provided, shall be set to open when the roof is being floated off the roof leg supports, or at the manufacturer's recommended setting.
2. Other equipment proven to be of equal efficiency for preventing discharge of hydrocarbon gases and vapors to the atmosphere.

B. Any other petroleum liquid storage tank shall be equipped with a submerged filling device, or acceptable equivalent, for the control of hydrocarbon emissions.

C. All facilities for dock loading of petroleum products, having a vapor pressure of 1.5 pounds per square inch absolute or greater at loading pressure, shall provide for submerged filling or acceptable equivalent for control of hydrocarbon emissions.

D. All pumps and compressors which handle volatile organic compounds shall be equipped with mechanical seals or other equipment of equal efficiency to prevent the release of organic contaminants into the atmosphere.

E. The monitoring of operations required by this Section is as follows:
1. The owner or operator of any petroleum liquid storage vessel to which this Section applies shall for each such storage vessel maintain a file of each type of petroleum liquid stored, of the typical Reid vapor pressure of each type of petroleum liquid stored and of dates of storage. Dates on which the storage vessel is empty shall be shown.
2. The owner or operator of any petroleum liquid storage vessel to which this Section applies shall for such storage vessel determine and record the average monthly storage temperature and true vapor pressure of the petroleum liquid stored at such temperature if either:

a. The petroleum liquid has a true vapor pressure, as stored, greater than 26 mm Hg (0.5 psia) but less than 78 mm Hg (1.5 psia) and is stored in a storage vessel other than 1 equipped with a floating roof, a vapor recovery system or their equivalents; or

b. The petroleum liquid has a true vapor pressure, as stored, greater than 470 mm Hg (9.1 psia) and is stored in a storage vessel other than 1 equipped with a vapor recovery system or its equivalent.

3. The average monthly storage temperature shall be an arithmetic average calculated for each calendar month, or portion thereof, if storage is for less than a month, from bulk liquid storage temperatures determined at least once every 7 days.

4. The true vapor pressure shall be determined by the procedures in American Petroleum Institute Bulletin 2517, amended as of February 1980 (and no future editions), which is incorporated herein by reference and on file with the Office of the Secretary of State. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the Director requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, the Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available upon request to the Director when typical Reid vapor pressure is used.

Historical Note

Section R18-2-710 renumbered from R18-2-510 effective November 15, 1993 (Supp. 93-4).

~~$E = 55.0P^{0.11}-40$~~

where "E" and "P" are defined as indicated in subsection (A)(1).

B. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

C. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

D. The opacity of emissions subject to the provisions of this Section shall not exceed 20%.

E. Monitoring of operations under this Section is as follows:

1. The owner or operator of an affected facility shall maintain daily records of the time and duration of each steel production cycle.
2. The owner or operator of any affected facility that uses Venturi scrubber emission control equipment shall install, calibrate, maintain and continuously operate the following monitoring devices:
   a. A monitoring device for the continuous measurement of the pressure loss through the Venturi constriction of the control equipment. The monitoring device shall be certified by the manufacturer to be accurate within ± 250 pascals (± 1 inch water).
   b. A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 5% of the design water supply pressure. The pressure sensor or tap shall be located close to the water discharge point.
3. All monitoring devices required in subsection (F)(2) shall be recalibrated annually and at other times as the Director may require, in accordance with the procedures in Appendix 9 of this Chapter.

F. The test methods and procedures required under this Section are as follows:

1. The reference methods set forth in 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, shall be used to determine compliance with the standards prescribed in subsection (A) as follows:
   a. Method 5 for concentration of particulate matter and associated moisture content,
   b. Method 1 for sample and velocity traverses,
   c. Method 2 for volumetric flow rate,
   d. Method 3 for gas analysis.
2. For Method 5, the sampling for each run shall continue for an integral number of cycles with total duration of at least 60 minutes. The sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Director. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping.

Historical Note

Section R18-2-713 renumbered from R18-2-513 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 ~~(Supp. 09-1).~~

R18-2-714. Standards of Performance for Existing Sewage Treatment Plants

A. No person shall cause, allow or permit to be emitted into the atmosphere, from any municipal sewage treatment plant sludge incinerator:

1. Smoke, fumes, gases, particulate matter or other gasborne material which exceeds 20% opacity for more than 30 seconds in any 60-minute period.
2. Particulate matter in concentrations in excess of 0.1 grain per cubic foot, based on dry flue gas at standard conditions, corrected to 12% carbon dioxide.

B. The owner or operator of any sludge incinerator subject to the provisions of this Section shall monitor operations by doing all of the following:

1. Install, calibrate, maintain and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to the incinerator. The flow measuring device shall have an accuracy of ± 5% over its operating range.
2. Provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained.
3. Install, calibrate, maintain and operate a weighing device for determining the mass of any municipal solid waste charged to the incinerator when sewage sludge and municipal solid wastes are incinerated together. The weighing device shall have an accuracy of ± 5% over its operating range.

C. The test methods and procedures required by this Section are as follows:

1. The reference methods set forth in 40 CFR 60, Appendix A shall be used to determine compliance with the standards prescribed in subsection (A) as follows:
   a. Method 5 for concentration of particulate matter and associated moisture content;
   b. Method 1 for sample and velocity traverses;
   c. Method 2 for volumetric flow rate; and
   d. Method 3 for gas analysis.
2. For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Director.

Historical Note

Section R18-2-714 renumbered from R18-2-514 ~~effective November 15, 1993 (Supp. 93-4)~~.

~~R18-2-715. Standards of Performance for Existing Primary~~ Copper Smelters; Site-specific Requirements

A. No owner or operator of a primary copper smelter shall cause, allow or permit the discharge of particulate matter into the atmosphere from any process in total quantities in excess of the amount calculated by one of the following equations:

1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

   $E = 4.10P^{0.67}$

   where

   E = the maximum allowable particulate emissions rate in pounds-mass per hour.

   P = the process weight rate in tons-mass per hour.

2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

   $E = 55.0P^{0.11}-40$

   where "E" and "P" are defined as indicated in subsection (A)(1).

B. Actual values shall be calculated from the applicable equations ~~and rounded off to two decimal places.~~

R18-2-715. Standards of Performance for Existing Primary Copper Smelters; Site-specific Requirements

F. Except as provided in a consent decree or a delayed compliance order, the owner or operator of any primary copper smelter shall not discharge or cause the discharge of sulfur dioxide into the atmosphere from any stack required to be monitored by R18-2-715.01(K) in excess of the following:

1. For the copper smelter located near Hayden, Arizona at latitude 33°0’29”N and longitude 110°47’17” W:
    a. Annual average emissions, as calculated under R18-2-715.01(C), shall not exceed 6,882 pounds per hour.
    b. The number of three-hour average emissions, as calculated under R18-2-715.01(C), shall not exceed n cumulative occurrences in excess of E, the emission level, shown in the following table in any compliance period as defined in R18-2-715.01(J):

n, Cumulative Occurrences	E, (lb/hr)
0	24,641
1	22,971
2	21,705
4	20,322
7	19,387
12	18,739
20	17,656
32	16,988
48	16,358
68	15,808
94	15,090
130	14,423
180	13,777
245	13,212
330	12,664
435	12,129
560	11,621
710	11,165
890	10,660
1100	10,205
1340	9,748
1610	9,319
1910	8,953
2240	8,556

G. Except as provided in a consent decree or a delayed compliance order, for the copper smelter located near Hayden, Arizona at latitude 33°0’29”N and longitude 110°47’17”W, annual average fugitive emissions calculated under R18-2-715.01(T) shall not exceed 295 pounds per hour.

Historical Note

Section R18-2-715 renumbered from R18-2-515 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 8 A.A.R. 575, effective January 15, 2002 (Supp. 02-1). Amended by final rulemaking at 8 A.A.R. 3365, effective July 18, 2002 (Supp. 02-3). Amended by final rulemaking at 13 A.A.R. 2157, effective August 4, 2007 (Supp. 07-2). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1).

[Arizona Administrative Code, Title 18, Environmental Quality]

R18-2-715.01. Standards of Performance for Existing Primary Copper Smelters; Compliance and Monitoring

A. The cumulative occurrence and emission limits in R18-2-715(F) apply to the total of sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not uncaptured fugitive emissions or emissions due solely to the use of fuel for space heating or steam generation.

B. The owner or operator shall include periods of malfunction, startup, shutdown or other upset conditions when determining compliance with the cumulative occurrence or annual average emission limits in R18-2-715(F), (G), or (H).

C. The owner or operator shall determine compliance with the cumulative occurrence and emission limits contained in R18-2-715(F) as follows:

1. The owner or operator shall calculate annual average emissions at the end of each day by averaging the emissions for all hours measured during the compliance period defined in subsection (J) ending on that day. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(F) if either:

a. The annual average is greater than the annual average computed for the preceding day; or

b. The annual averages computed for the five preceding days all exceed the allowable annual average emission limit.

2. The owner or operator shall calculate a three-hour emissions average at the end of each clock hour by averaging the hourly emissions for the preceding three consecutive hours provided each hour was measured according to the requirements in subsection (K).

D. For purposes of this Section, the compliance date, unless otherwise provided in a consent decree or a delayed compliance order, shall be January 14, 1986, except that:

1. The compliance date for the cumulative occurrence and emissions limits in R18-2-715(F)(1) and R18-2-715(G)(1) is January 15, 2002, and

2. The compliance date for the cumulative occurrence and emissions limits in R18-2-715(F)(2), (F)(3), (G)(2), and (H) is the effective date of this rule.

E. For purposes of subsection (C), a three-hour emissions average in excess of an emission level E violates the associated cumulative occurrence limit n listed in R18-2-715(F) if:

1. The number of all three-hour emissions averages calculated during the compliance period in excess of that emission level exceeds the cumulative occurrence limit associated with the emission level; and

2. The average is calculated during the last operating day of the compliance period being reported.

F. A three-hour emissions average only violates the cumulative occurrence limit n of an emission level E on the day containing the last hour in the average.

G. Multiple violations of the same cumulative occurrence limit on the same day and violations of different cumulative occurrence limits on the same day constitute a single violation of R18-2-715(F).

H. The violation of any cumulative occurrence limit and an annual average emission limit on the same day constitutes only a single violation of the requirements of R18-2-715(F).

I. Multiple violations of a cumulative occurrence limit by different three-hour emissions averages containing any common hour constitutes a single violation of R18-2-715(F).

J. To determine compliance with subsections (C) through (I), the compliance period consists of the 365 calendar days immediately preceding the end of each day of the month being reported unless that period includes less than 300 operating days, in which case the number of days preceding the last day of the compliance period shall be increased until the compliance period contains 300 operating days. For purposes of this Section, an operating day is any day on which sulfur-containing feed is introduced into the smelting process.

K. To determine compliance with R18-2-715(F) or (H), the owner or operator of any smelter subject to R18-2-715(F) or (H) shall install, calibrate, maintain, and operate a measurement system for continuously monitoring sulfur dioxide concentrations and stack gas volumetric flow rates in each stack that could emit five percent or more of the allowable annual average sulfur dioxide emissions from the smelter.

1. The owner or operator shall continuously monitor sulfur dioxide concentrations and stack gas volumetric flow rates in the outlet of each piece of sulfur dioxide control equipment.

2. The owner or operator shall continuously monitor captured fugitive emissions for sulfur dioxide concentrations and stack gas volumetric flow rates and include these emissions as part of total plant emissions when determining compliance with the cumulative occurrence and emission limits in R18-2-715(F) and (H).

3. If the owner or operator demonstrates to the Director that measurement of stack gas volumetric flow in the outlet of any particular piece of sulfur dioxide control equipment would yield inaccurate results once operational or would be technologically infeasible, then the Director may allow measurement of the flow rate at an alternative sampling point.

4. For purposes of this subsection, continuous monitoring means the taking and recording of at least one measurement of sulfur dioxide concentration and stack gas flow rate reading from the effluent of each affected stack, outlet, or other approved measurement location in each 15-minute period. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. An hour of smelter emissions is considered continuously monitored if the emissions from all monitored stacks, outlets, or other approved measurement locations are measured for at least 45 minutes of any hour according to the requirements of this subsection.

5. The owner or operator shall demonstrate that the continuous monitoring system meets all of the following requirements:

   a. The sulfur dioxide continuous emission monitoring system installed and operated under this Section meets the requirements of 40 CFR 60, Appendix B, Performance Specification 6.

   b. The sulfur dioxide continuous emission monitoring system installed and operated under this Section meets the quality assurance requirements of 40 CFR 60, Appendix F.

   c. The owner or operator shall notify the Director in writing at least 30 days in advance of the start of relative accuracy test audit (RATA) procedures performed on the continuous monitoring system.

   d. The Director shall approve the location of all sampling points for monitoring sulfur dioxide concentrations and stack gas volumetric flow rates in writing before installation and operation of measurement instruments.

   e. The measurement system installed and used under this subsection is subject to the manufacturer's recommended zero adjustment and calibration procedures at least once per 24-hour operating period unless the manufacturer specifies or recommends calibration at shorter intervals, in which case specifications or recommendations shall be followed. The owner or operator shall make available a record of these procedures that clearly shows instrument readings before and after zero adjustment and calibration.

L. The owner or operator of a smelter subject to this Section shall measure at least 95 percent of the hours during which emissions occurred in any month.

M. Failure of the owner or operator of a smelter subject to this Section to measure any 12 consecutive hours of emissions according to the requirements of subsection (K) or (S) is a violation of this Section.

N. The owner or operator of any smelter subject to this Section shall maintain on hand and ready for immediate installation sufficient spare parts or duplicate systems for the continuous monitoring equipment required by this Section to allow for the replacement within six hours of any monitoring equipment part that fails or malfunctions during operation.

O. To determine total overall emissions, the owner or operator of any smelter subject to this Section shall perform material balances for sulfur according to the procedures prescribed by Appendix 8 of this Chapter.

P. The owner or operator of any smelter subject to this Section shall maintain a record of all average hourly emissions measurements and all calculated average monthly emissions required by this Section. The record of the emissions shall be retained for at least five years following the date of measurement or calculation. The owner or operator shall record the measurement or calculation results as pounds per hour of sulfur dioxide. The owner or operator shall summarize the following data monthly and submit the summary to the Director within 20 days after the end of each month:

1. For all periods described in subsection (C) and (R), the annual average emissions as calculated at the end of each day of the month;
2. The total number of hourly periods during the month in which measurements were not taken and the reason for loss of measurement for each period;
3. The number of three-hour emissions averages that exceeded each of the applicable emissions levels listed in R18-2-715(F) and (G)(1)(b) for the compliance periods ending on each day of the month being reported;
4. The date on which a cumulative occurrence limit listed in R18-2-715(F) or (G)(1)(b) was exceeded if the exceedance occurred during the month being reported; and
5. For all periods described in subsection (T) and (U), the annual average emissions as calculated at the end of the last day of each month.

Q. An owner or operator shall install instrumentation to monitor each point in the smelter facility where a means exists to bypass the sulfur removal equipment, to detect and record all periods that the bypass is in operation. An owner or operator of a copper smelter shall report to the Director, not later than the 15th day of each month, the recorded information required by this Section, including an explanation for the necessity of the use of the bypass.

R. The owner or operator shall determine compliance with the cumulative occurrence and fugitive emission limits contained in R18-2-715(G)(1) as follows:

1. The owner or operator shall calculate annual average emissions at the end of each day by averaging the emissions for all hours measured during the compliance period, as defined in subsection (R)(8), ending on that day. An annual emissions average in excess of the allowable annual average emission limit is a violation of R18-2-715(G)(1)(a) if either:
   a. The annual average is greater than the annual average computed for the preceding day; or
   b. The annual averages computed for the five preceding days all exceed the allowable annual average emission limit.

2. The owner or operator shall calculate a three-hour emissions average at the end of each clock hour by averaging the hourly emissions for the preceding three consecutive hours provided each hour was measured according to the requirements contained in subsection (S).

3. For purposes of subsection (R)(2), a three-hour emissions average in excess of an emission level E f violates the associated cumulative occurrence limit n listed in R18-2-715(G)(1)(b) if:

a. The number of all three-hour emissions averages calculated during the compliance period in excess of that emission level exceeds the cumulative occurrence limit associated with the emission level; and

b. The average is calculated during the last operating day of the compliance period being reported.

4. A three-hour emissions average only violates the cumulative occurrence limit n of an emission level E f on the day containing the last hour in the average.

5. Multiple violations of the same cumulative occurrence limit on the same day and violations of different cumulative occurrence limits on the same day constitute a single violation of R18-2-715(G)(1)(b).

6. The violation of any cumulative occurrence limit and an annual average emission limit on the same day constitutes only a single violation of the requirements of R18-2-715(G)(1).

7. Multiple violations of a cumulative occurrence limit by different three-hour emissions averages containing any common hour constitutes a single violation of R18-2-715(G)(1)(b).

8. To determine compliance with subsections (R)(1) through (7), the compliance period consists of the 365 calendar days immediately preceding the end of each day of the month being reported unless that period includes less than 300 operating days, in which case the number of days preceding the last day of the compliance period shall be increased until the compliance period contains 300 operating days. For purposes of this Section, an operating day is any day on which sulfur-containing feed is introduced into the smelting process.

S. To determine compliance with R18-2-715(G)(1), the owner or operator of the smelter subject to R18-2-715(G)(1) shall install, calibrate, maintain, and operate a measurement system for continuously monitoring sulfur dioxide concentrations of the converter roof fugitive emissions.

1. For purposes of this subsection, continuous monitoring means the taking and recording of at least one measurement of sulfur dioxide concentration from an approved measurement location in each 15-minute period. Fifteen-minute periods start at the beginning of each clock hour, and run consecutively. An hour of smelter emissions is considered continuously monitored if the emissions from all approved measurement locations are measured for at least 45 minutes of any hour according to the requirements of this subsection.

2. The owner or operator of a smelter subject to the requirements of this subsection shall conduct quality assurance procedures on the continuous monitoring system according to the methods in 40 CFR 60, Appendix F, except that an annual relative accuracy test audit (RATA) is not required.

T. The emission limit in R18-2-715(G)(2) applies to the total of uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(G)(2) as follows:

1. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending

on that day. To determine monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.

2. An annual emissions average in excess of the allowable annual average emission limit violates R18-2-715(G)(2) if the fugitive annual average computed at the end of each month exceeds the allowable annual average emission limit.

U. The emission limit in R18-2-715(H) applies to the total of stack and uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(H) as follows:

1. The owner or operator shall calculate annual average stack emissions at the end of the last day of each month by averaging the emissions for all hours measured during the previous 12-month period ending on that day according to the requirements contained in subsection (K).

2. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending on that day. To determine monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.

3. An annual emissions average in excess of the allowable annual average emission limit violates R18-2-715(H) if the total of the stack and fugitive annual averages computed at the end of each month exceeds the allowable annual average emission limit.

Historical Note

Section R18-2-715.01 renumbered from R18-2-515.01 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 8 A.A.R. 575, effective January 15, 2002 (Supp. 02-1). Amended by final rulemaking at 8 A.A.R. 3365, effective July 18, 2002 (Supp. 02-3).

least 45 minutes of any hour according to the requirements of this subsection.

2. The owner or operator of a smelter subject to the requirements of this subsection shall conduct quality assurance procedures on the continuous monitoring system according to the methods in 40 CFR 60, Appendix F, except that an annual relative accuracy test audit (RATA) is not required.

T. The emission limit in R18-2-715(G) applies to the total of uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(G) as follows:

1. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending on that day. To determine monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.
2. An annual emissions average in excess of the allowable annual average emission limit violates R18-2-715(G) if the fugitive annual average computed at the end of each month exceeds the allowable annual average emission limit.

U. The emission limit in R18-2-715(H) applies to the total of stack and uncaptured fugitive sulfur dioxide emissions from the smelter processing units and sulfur dioxide control and removal equipment, but not emissions due solely to the use of fuel for space heating or steam generation. The owner or operator shall determine compliance with the emission limit contained in R18-2-715(H) as follows:

1. The owner or operator shall calculate annual average stack emissions at the end of the last day of each month by averaging the emissions for all hours measured during the previous 12-month period ending on that day according to the requirements contained in subsection (K).
2. The owner or operator shall calculate annual average fugitive emissions at the end of the last day of each month by averaging the monthly emissions for the previous 12-month period ending on that day. To determine monthly fugitive emissions, the owner or operator shall perform material balances for sulfur according to the sulfur balance procedures prescribed in Appendix 8 of this Chapter.
3. An annual emissions average in excess of the allowable annual average emission limit violates R18-2-715(H) if the total of the stack and fugitive annual averages computed at the end of each month exceeds the allowable annual average emission limit.

V. The owner and operator of the copper smelter located near Hayden, Arizona at the latitude and longitude provided in R18-2-715(F)(1) shall comply with Section R18-2-715.01 until the effective date of R18-2-B1302 as determined by R18-2-B1302(A)(2). The owner and operator of the copper smelter located near Miami, Arizona at the latitude and longitude provided in R18-2-715(F)(2) shall comply with Section R18-2-715.01 until the effective date of R18-2-C1302 as determined by R18-2-C1302(A)(2).

Historical Note

Section R18-2-715.01 renumbered from R18-2-515.01 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 8 A.A.R. 575, effective January 15, 2002 (Supp. 02-1). Amended by final rulemaking at 8 A.A.R. 3365, effective July 18, 2002 (Supp. 02-3). Amended by final rulemaking at 23 A.A.R. 767, effective May 7, 2017, (Supp. 17-1).

R18-2-715.02. Standards of Performance for Existing Primary Copper Smelters; Fugitive Emissions

A. For purposes of this Section, the compliance date, unless otherwise provided in a consent decree or a delayed compliance order, shall be January 14, 1986.

B. No later than 24 months before the compliance date, the owner or operator of a smelter subject to R18-2-715 shall submit to the Director the results of an evaluation of the fugitive emissions from the smelter. The evaluation results shall contain all of the following information:

1. A measurement or accurate estimate of total fugitive emissions from the smelter during typical operations, including planned start-up and shutdown. The measurement or estimate shall contain the amount of both average short-term (24 hours) and average long-term (monthly) fugitive emissions from the smelter. The evaluation plan shall be approved in advance by the Department and shall specify the method used to determine the fugitive emission amounts, including the conditions determined to be “typical operations” for the smelter.
2. A measurement or accurate estimate of the relative proportion, expressed as a percentage, of total fugitive emissions during typical operations, including planned start-up and shutdown, produced by any of the following smelter processes:
   a. Roaster or dryer operation;
   b. Calcine or dried concentrate transfer;
   c. Reverberatory furnace operations, including feeding, slag return, matte and slag tapping;
   d. Matte transfer; and
   e. Converter operations.
3. The measurement technique or method of estimation used to fulfill the requirement in subsection (B)(2) shall be approved in advance by the Department.
4. The results of at least a six-month fugitive emission impact analysis conducted during that part of the year when fugitive emissions are expected to have the greatest ambient air quality impact. The study shall utilize sufficient measurements of fugitive emissions, meteorological conditions and ambient sulfur dioxide concentrations to associate fugitive emissions with specific measured ambient concentrations of sulfur dioxide. The study shall describe in detail the techniques used to make the required determinations. The design of the study shall be approved in advance by the Department.

C. On the basis of the results of the evaluation as well as other data and information contained in the records of the Department, the Director shall determine whether fugitive emissions from a particular smelter have the potential to cause or significantly contribute to violations of the ambient sulfur dioxide standards in the vicinity of the smelter. If the Director finds that fugitive emissions from a particular smelter have the potential to cause or significantly contribute to violations of ambient sulfur dioxide standards in the vicinity of a smelter, then the Director shall adopt rules specifying the emission limits and undertake other appropriate measures necessary to maintain ambient sulfur dioxide standards.

D. The requirements of subsection (B) shall not apply to a smelter subject to this Section if the owner or operator of that smelter can demonstrate to the Director both that:

1. Compliance with the applicable cumulative occurrence and emission limits listed in R18-2-715(F) will require

the smelter to undergo major modifications to its physical configuration or work practices prior to the compliance date, and

2. That the modification will reduce fugitive emissions to such an extent that such emissions will not cause or significantly contribute to violations of ambient sulfur dioxide standards in the vicinity of the smelter.

E. In order to assess the sufficiency of the cumulative occurrence and emission limits contained in R18-2-715(F) to maintain the ambient air quality standards for sulfur dioxide set forth in R18-2-202, an owner or operator of a smelter subject to this Section shall continue to calibrate, maintain and operate any ambient sulfur dioxide monitoring equipment owned by the smelter owner or operator and in operation within the area of the smelter enclosed by a circle with 10-mile radius as calculated from a center point which shall be the point of the smelter's greatest sulfur dioxide emissions, for a period of at least three years after the compliance date.

1. Such monitors shall be operated and maintained in accordance with 40 CFR 50 and 58 and such other conditions as the Director deems necessary.
2. The location of ambient sulfur dioxide monitors and length of time such monitors remain at a location shall be determined by the Director.

F. The owner and operator of the copper smelter located near Hayden, Arizona at the latitude and longitude provided in R18-2-715(F)(1) shall comply with Section R18-2-715.02 until the effective date of R18-2-B1302 as determined by R18-2-B1302(A)(2). The owner and operator of the copper smelter located near Miami, Arizona at the latitude and longitude provided in R18-2-715(F)(2) shall comply with Section R18-2-715.02 until the effective date of R18-2-C1302 as determined by R18-2-C1302(A)(2).

Historical Note

Section R18-2-715.02 renumbered from R18-2-515.02 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 23 A.A.R. 767, effective May 7, 2017, (Supp. 17-1).

~~R18-2-716. Standards of Performance for Existing Coal Preparation Plants~~

~~**A.** The provisions of this Section are applicable to any of the following affected facilities in coal preparation plants: thermal dryers, pneumatic coal-cleaning equipment, coal processing and conveying equipment including breakers and crushers, coal storage systems, and coal transfer and loading systems. For purposes of this Section, the definitions contained in 40 CFR 60.251 are adopted by reference and incorporated herein.~~

~~**B.** No person shall cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any existing coal preparation plant in total quantities in excess of the amounts calculated by one of the following equations:~~

1. ~~For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:~~

   $E = 4.10P^{0.67}$

   ~~where:~~

   ~~E = the maximum allowable particulate emissions rate in pounds-mass per hour.~~

   ~~P = the process weight rate in tons-mass per hour.~~

2. ~~For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:~~

   $E = 55.0P^{0.11}-40$

   ~~where "E" and "P" are defined as indicated in subsection (B)(1).~~

~~**C.** Actual values shall be calculated from the applicable equations and rounded off to two decimal places.~~

~~**D.** For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.~~

~~**E.** Fugitive emissions from coal preparation plants shall be controlled in accordance with R18-2-604 through R18-2-607.~~

~~**F.** The test methods and procedures required by this Section are as follows:~~

1. ~~The reference methods in the 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, are used to determine compliance with standards prescribed in subsection (B) as follows:~~
   a. ~~Method 5 for the concentration of particulate matter and associated moisture content,~~
   b. ~~Method 1 for sample and velocity traverses,~~
   c. ~~Method 2 for velocity and volumetric flow rate,~~
   d. ~~Method 3 for gas analysis.~~
2. ~~For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sample volume is 0.85 dscm (30 dscf) except that short sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Director. Sampling shall not be started until 30 minutes after start-up and shall be terminated before shutdown procedures commence. The owner or operator of the affected facility shall eliminate cyclonic flow during performance tests in a manner acceptable to the Director.~~
3. ~~The owner or operator shall construct the facility so that particulate emissions from thermal dryers or pneumatic coal cleaning equipment can be accurately determined by applicable test methods and procedures under subsection (F)(1).~~

~~**Historical Note**~~

~~Section R18-2-716 renumbered from R18-2-516 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1).~~

~~R18-2-717. Expired~~

~~**Historical Note**~~

~~Section R18-2-717 renumbered from R18-2-517 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1). Section expired under A.R.S. § 41-1056(J) at 21 A.A.R. 15, effective September 30, 2015 (Supp. 15-4).~~

~~R18-2-718. Repealed~~

~~**Historical Note**~~

~~Section R18-2-718 renumbered from R18-2-518 effective November 15, 1993 (Supp. 93-4). Section repealed by final rulemaking at 13 A.A.R. 2157, effective August 4, 2007 (Supp. 07-2).~~

~~R18-2-719. Standards of Performance for Existing Stationary Rotating Machinery~~

~~**A.** The provisions of this Section are applicable to the following affected facilities: all stationary gas turbines, oil-fired turbines, or internal combustion engines. This Section also applies to an installation operated for the purpose of producing electric or mechanical power with a resulting discharge of sulfur dioxide in the installation's effluent gases.~~

~~d. Method 3 for gas analysis.~~

~~2. For Method 5, the sampling time for each run shall be at least four hours. When a single EAF is sampled, the sampling time for each run shall also include an integral number of heats. Shorter sampling times, when necessitated by process variables or other factors, may be approved by the Director. The minimum sample volume shall be 4.5 dscm (160 dscf).~~

~~Historical Note~~

~~Section R18-2-717 renumbered from R18-2-517 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1).~~

~~R18-2-718. Repealed~~

~~Historical Note~~

~~Section R18-2-718 renumbered from R18-2-518 effective November 15, 1993 (Supp. 93-4). Section repealed by final rulemaking at 13 A.A.R. 2157, effective August 4, 2007 (Supp. 07-2).~~

R18-2-719. Standards of Performance for Existing Stationary Rotating Machinery

A. The provisions of this Section are applicable to the following affected facilities: all stationary gas turbines, oil-fired turbines, or internal combustion engines. This Section also applies to an installation operated for the purpose of producing electric or mechanical power with a resulting discharge of sulfur dioxide in the installation's effluent gases.

B. For purposes of this Section, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. Compliance tests shall be conducted during operation at the normal rated capacity of each unit. The total heat input of all operating fuel-burning units on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

C. No person shall cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any stationary rotating machinery in excess of the amounts calculated by one of the following equations:

1. For equipment having a heat input rate of 4200 million Btu per hour or less, the maximum allowable emissions shall be determined by the following equation:

   $E = 1.02Q^{0.769}$

   where:

   E = the maximum allowable particulate emissions rate in pounds-mass per hour.

   Q = the heat input in million Btu per hour.

2. For equipment having a heat input rate greater than 4200 million Btu per hour, the maximum allowable emissions shall be determined by the following equation:

   $E = 17.0Q^{0.432}$

   where "E" and "Q" have the same meaning as in subsection (C)(1).

D. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

E. No person shall cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period greater than 10 consecutive seconds which exceeds 40% opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

F. When low sulfur oil is fired, stationary rotating machinery installations shall burn fuel which limits the emission of sulfur dioxide to 1.0 pound per million Btu heat input.

G. When high sulfur oil is fired, stationary rotating machinery installations shall not emit more than 2.2 pounds of sulfur dioxide per million Btu heat input.

H. Any permit issued for the operation of an existing source, or any renewal or modification of such a permit, shall include a condition prohibiting the use of high sulfur oil by the permittee. This condition may not be included in the permit if the applicant demonstrates to the satisfaction of the Director both that sufficient quantities of low sulfur oil are not available for use by the source and that it has adequate facilities and contingency plans to ensure that the sulfur dioxide ambient air quality standards set forth in R18-2-202 will not be violated.

1. The terms of the permit may authorize the use of high sulfur oil under such conditions as are justified.
2. In cases where the permittee is authorized to use high sulfur oil, it shall submit to the Department monthly reports detailing its efforts to obtain low sulfur oil.
3. When the conditions justifying the use of high sulfur oil no longer exist, the permit shall be modified accordingly.
4. Nothing in this Section shall be construed as allowing the use of a supplementary control system or other form of dispersion technology.

I. The owner or operator of any stationary rotating machinery subject to the provisions of this Section shall record daily the sulfur content and lower heating value of the fuel being fired in the machine.

J. The owner or operator of any stationary rotating machinery subject to the provisions of this Section shall report to the Director any daily period during which the sulfur content of the fuel being fired in the machine exceeds 0.8%.

K. The test methods and procedures required by this Section are as follows:

1. To determine compliance with the standards prescribed in subsections (C) through (H), the following reference methods shall be used:
   a. Reference Method 20 in 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, for the concentration of sulfur dioxide and oxygen.
   b. ASTM Method D129-91 (Test Method for Sulfur in Petroleum Products) (General Bomb Method) for the sulfur content of liquid fuels.
   c. ASTM Method D1072-90 (Test Method for Total Sulfur in Fuel Gases for the sulfur content of gaseous fuels.
2. To determine compliance with the standards prescribed in subsection (J), the following reference methods shall be used:
   a. ASTM Method D129-91 (Test Method for Sulfur in Petroleum Products) (General Bomb Method) for the sulfur content of liquid fuels.
   b. ASTM Method D1072-90 (Test Method for Total Sulfur in Fuel Gases) for the sulfur content of gaseous fuels.

Historical Note

Section R18-2-719 renumbered from R18-2-519 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1). Amended by final rulemaking at 18 A.A.R. 1542~~, effective August 7, 2012 (Supp. 12-2)~~.

~~R18-2-720. Standards of Performance for Existing Lime Manufacturing Plants~~

~~**A.** The provisions of this Section are applicable to the following affected facilities used in the manufacture of lime: rotary lime~~

~~the Director. The minimum sample volume shall be 4.5~~ dscm (160 dscf).

Historical Note

Section R18-2-717 renumbered from R18-2-517 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1).

R18-2-718. Repealed

Historical Note

Section R18-2-718 renumbered from R18-2-518 effective November 15, 1993 (Supp. 93-4). Section repealed by final rulemaking at 13 A.A.R. 2157, effective August 4, 2007 (Supp. 07-2).

R18-2-719. Standards of Performance for Existing Stationary Rotating Machinery

A. The provisions of this Section are applicable to the following affected facilities: all stationary gas turbines, oil-fired turbines, or internal combustion engines. This Section also applies to an installation operated for the purpose of producing electric or mechanical power with a resulting discharge of sulfur dioxide in the installation's effluent gases.

B. For purposes of this Section, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. Compliance tests shall be conducted during operation at the normal rated capacity of each unit. The total heat input of all operating fuel-burning units on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

C. No person shall cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any stationary rotating machinery in excess of the amounts calculated by one of the following equations:

1. For equipment having a heat input rate of 4200 million Btu per hour or less, the maximum allowable emissions shall be determined by the following equation:

   $E = 1.02Q^{0.769}$

   where:

   E = the maximum allowable particulate emissions rate in pounds-mass per hour.

   Q = the heat input in million Btu per hour.

2. For equipment having a heat input rate greater than 4200 million Btu per hour, the maximum allowable emissions shall be determined by the following equation:

   $E = 17.0Q^{0.432}$

   where "E" and "Q" have the same meaning as in subsection (C)(1).

D. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

E. No person shall cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period greater than 10 consecutive seconds which exceeds 40% opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

F. When low sulfur oil is fired, stationary rotating machinery installations shall burn fuel which limits the emission of sulfur dioxide to 1.0 pound per million Btu heat input.

G. When high sulfur oil is fired, stationary rotating machinery installations shall not emit more than 2.2 pounds of sulfur dioxide per million Btu heat input.

H. Any permit issued for the operation of an existing source, or any renewal or modification of such a permit, shall include a condition prohibiting the use of high sulfur oil by the permit~~tee. This condition may not be included in the permit if the applicant demonstrates to the satisfaction of the Director both~~ that sufficient quantities of low sulfur oil are not available for use by the source and that it has adequate facilities and contingency plans to ensure that the sulfur dioxide ambient air quality standards set forth in R18-2-202 will not be violated.

1. The terms of the permit may authorize the use of high sulfur oil under such conditions as are justified.
2. In cases where the permittee is authorized to use high sulfur oil, it shall submit to the Department monthly reports detailing its efforts to obtain low sulfur oil.
3. When the conditions justifying the use of high sulfur oil no longer exist, the permit shall be modified accordingly.
4. Nothing in this Section shall be construed as allowing the use of a supplementary control system or other form of dispersion technology.

I. The owner or operator of any stationary rotating machinery subject to the provisions of this Section shall record daily the sulfur content and lower heating value of the fuel being fired in the machine.

J. The owner or operator of any stationary rotating machinery subject to the provisions of this Section shall report to the Director any daily period during which the sulfur content of the fuel being fired in the machine exceeds 0.8%.

K. The test methods and procedures required by this Section are as follows:

1. To determine compliance with the standards prescribed in subsections (C) through (H), the following reference methods shall be used:
   a. Reference Method 20 in 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, for the concentration of sulfur dioxide and oxygen.
   b. ASTM Method D-129-91 (Test Method for Sulfur in Petroleum Products) (General Bomb Method) for the sulfur content of liquid fuels.
   c. ASTM Method D-1072-90 (Test Method for Total Sulfur in Fuel Gases for the sulfur content of gaseous fuels.
2. To determine compliance with the standards prescribed in subsection (J), the following reference methods in the Arizona Testing Manual shall be used:
   a. ASTM Method D-129-91 (Test Method for Sulfur in Petroleum Products) (General Bomb Method) for the sulfur content of liquid fuels.
   b. ASTM Method D-1072-90 (Test Method for Total Sulfur in Fuel Gases) for the sulfur content of gaseous fuels.

Historical Note

Section R18-2-719 renumbered from R18-2-519 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective ~~March 7, 2009 (Supp. 09-1).~~

R18-2-720. Standards of Performance for Existing Lime Manufacturing Plants

A. The provisions of this Section are applicable to the following affected facilities used in the manufacture of lime: rotary lime kilns, vertical lime kilns, lime hydrators, and limestone crushing facilities. This Section is also applicable to limestone crushing equipment which exists apart from other lime manufacturing facilities.

B. No person shall cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any lime manufacturing or limestone crushing facility in total quantities in excess of the amounts calculated by one of the following equations:

1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:
   $E = 4.10P^{0.67}$
   where:
   E = the maximum allowable particulate emissions rate in pounds-mass per hour.
   P = the process weight rate in tons-mass per hour.
2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:
   $E = 55.0P^{0.11}-40$
   where "E" and "P" are defined as indicated in subsection (B)(1).

C. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

D. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

E. Fugitive emissions from lime plants shall be controlled in accordance with R18-2-604 through R18-2-607.

F. The owner or operator subject to the provisions of this Section shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in subsection (G), to monitor and record the opacity of the gases discharged into the atmosphere from any rotary lime kiln. The span of this system shall be set at 70% opacity.

G. The owner or operator of any rotary lime kiln using a wet scrubbing emission control device subject to the provisions of this Section shall not be required to monitor the opacity of the gases discharged as required in subsection (F).

H. The test methods and procedures required by this Section are as follows:
1. The reference methods in 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, shall be used to determine compliance with this Section as follows:
   a. Method 5 for the measurement of particulate matter,
   b. Method 1 for sample and velocity traverses,
   c. Method 2 for velocity and volumetric flow rate,
   d. Method 3 for gas analysis,
   e. Method 4 for stack gas moisture,
   f. Method 9 for visible emissions.
2. For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dscm/hr (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Director.
3. Because of the high moisture content of the exhaust gases from the hydrators, in the range of 40 to 85% by volume, the Method 5 sample train may be modified to include a calibrated orifice immediately following the sample nozzle when testing lime hydrators. In this configuration, the sampling rate necessary for maintaining isokinetic conditions can be directly related to exhaust gas velocity without a correction for moisture content.

Historical Note

Section R18-2-720 renumbered from R18-2-520 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, ~~effective March 7, 2009 (Supp. 09-1)~~.

~~R18-2-721. Standards of Performance for Existing Nonfer~~rous Metals Industry Sources

A. The provisions of this Section are applicable to the following affected facilities:
1. Mines,
2. Mills,
3. Concentrators,
4. Crusers,
5. Screens,
6. Material handling facilities,
7. Fine ore storage,
8. Dryers,
9. Roasters, and
10. Loaders.

B. No person shall cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any process source subject to the provisions of this Section in total quantities in excess of the amounts calculated by one of the following equations:
1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:
   $E = 4.10P^{0.67}$
   where:
   E = the maximum allowable particulate emissions rate in pounds-mass per hour.
   P = the process weight rate in tons-mass per hour.
2. For process sources having a process weight greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:
   $E = 55.0P^{0.11}-40$
   where "E" and "P" are defined as indicated in subsection (B)(1).

C. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

D. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

E. No person shall cause, allow or permit to be discharged into the atmosphere from any dryer or roaster the operating temperature of which exceeds 700°F, reduced sulfur in excess of 10% of the sulfur entering the process as feed. Reduced sulfur includes sulfur equivalent from all sulfur emissions including sulfur dioxide, sulfur trioxide, and sulfuric acid.

F. The owner or operator of any mining property subject to the provisions of this Section shall record the daily process rates and hours of operation of all material handling facilities.

G. A continuous monitoring system for measuring sulfur dioxide emissions shall be installed, calibrated, maintained and operated by the owner or operator where dryers or roasters are not expected to achieve compliance with the standard under subsection (E).

H. The test methods and procedures required by this Section are as follows:
1. The reference methods in 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, shall be used to determine compliance with the standard prescribed in this Section as follows:
   a. Method 5 for the concentration of particulate matter and the associated moisture content;
   b. Method 1 for sample and velocity traverses;
   c. ~~Method 2 for velocity and volumetric flow rate;~~

1. ~~The reference methods in 40 CFR 60, Appendix A, as~~ incorporated by reference in Appendix 2 of this Chapter, shall be used to determine compliance with the standard prescribed in this Section as follows:
   a. Method 5 for the concentration of particulate matter and the associated moisture content;
   b. Method 1 for sample and velocity traverses;
   c. Method 2 for velocity and volumetric flow rate;
   d. Method 3 for gas analysis and calculation of excess air, using the integrated sample technique;
   e. Method 6 for concentration of SO_2.
2. For Method 5, Method 1 shall be used to select the sampling site and the number of traverse sampling points. The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf), except that smaller sampling times or volumes, when necessitated by process variables or other factors, may be approved by the Director. The probe and filter holder heating systems in the sampling train shall be set to provide a gas temperature no greater than 160°C. (320°F.).
3. For Method 6, the sampling site shall be the same as that selected for Method 5. The sampling point in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft.). For Method 6, the sample shall be extracted at a rate proportional to the gas velocity at the sampling point.
4. For Method 6, the minimum sampling time shall be 20 minutes and the minimum sampling volume 0.02 dscm (0.71 dscf) for each sample. The arithmetic mean of two samples shall constitute one run. Samples shall be taken at approximately 30-minute intervals.

Historical Note

Section R18-2-721 renumbered from R18-2-521 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1).

R18-2-722. Standards of Performance for Existing Gravel or Crushed Stone Processing Plants

A. The provisions of this Section are applicable to the following affected facilities: primary rock crushers, secondary rock crushers, tertiary rock crushers, screens, conveyors and conveyor transfer points, stackers, reclaimers, and all gravel or crushed stone processing plants and rock storage piles.

B. No person shall cause, allow or permit the discharge of particulate matter into the atmosphere except as fugitive emissions in any one hour from any gravel or crushed stone processing plant in total quantities in excess of the amounts calculated by one of the following equations:
1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

   $E = 4.10P^{0.67}$

   where:

   E = the maximum allowable particulate emissions rate in pounds-mass per hour.

   P = the process weight rate in tons-mass per hour.
2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

   $E = 55.0P^{0.11} - 40$

   where "E" and "P" are defined as indicated in sub~~section (B)(1).~~

C. ~~Actual values shall be calculated from the applicable equations~~ and rounded off to two decimal places.

D. Spray bar pollution controls shall be utilized in accordance with "EPA Control of Air Emissions From Process Operations In The Rock Crushing Industry" (EPA 340/1-79-002), "Wet Suppression System" (pages 15-34, amended as of January 1979 (and no future amendments or editions)), as incorporated herein by reference and on file with the Office of the Secretary of State, with placement of spray bars and nozzles as required by the Director to minimize air pollution.

E. Fugitive emissions from gravel or crushed stone processing plants shall be controlled in accordance with R18-2-604 through R18-2-607.

F. The owner or operator of any affected facility subject to the provisions of this Section shall install, calibrate, maintain, and operate monitoring devices which can be used to determine daily the process weight of gravel or crushed stone produced. The weighing devices shall have an accuracy of ± 5% over their operating range.

G. The owner or operator of any affected facility shall maintain a record of daily production rates of gravel or crushed stone produced.

H. The test methods and procedures required by this Section are as follows:
1. The reference methods in 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, shall be used to determine compliance with the standards prescribed in this Section as follows:
   a. Method 5 for concentration of particulate matter and moisture content,
   b. Method 1 for sample and velocity traverses,
   c. Method 2 for velocity and volumetric flow rate,
   d. Method 3 for gas analysis.
2. For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sample volume is 0.85 dscm (30 dscf), except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Director. Sampling shall not be started until 30 minutes after start-up and shall be terminated before shutdown procedures commence. The owner or operator of the affected facility shall eliminate cyclonic flow during performance tests in a manner acceptable to the Director.

Historical Note

Section R18-2-722 renumbered from R18-2-522 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective ~~March 7, 2009 (Supp. 09-1).~~

R18-2-723. Standards of Performance for Existing Concrete Batch Plants

Fugitive dust emitted from concrete batch plants shall be controlled in accordance with R18-2-604 through R18-2-607.

Historical Note

Section R18-2-723 renumbered from R18-2-523 ~~and amended effective November 15, 1993 (Supp. 93-4)~~.

~~R18-2-724. Standards of Performance for Fossil-fuel Fired~~ Industrial and Commercial Equipment

A. This Section applies to industrial and commercial installations which are less than 73 megawatts capacity (250 million Btu per hour), but in the aggregate on any premises are rated at greater than 500,000 Btu per hour (0.146 megawatts), and in which fuel is burned for the primary purpose of producing steam, hot water, hot air or other liquids, gases or solids and in ~~the course of doing so the products of combustion do not come~~

   d. ~~Method 3 for gas analysis and calculation of excess~~ air, using the integrated sample technique;
   e. Method 6 for concentration of SO_2.
2. For Method 5, Method 1 shall be used to select the sampling site and the number of traverse sampling points. The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf), except that smaller sampling times or volumes, when necessitated by process variables or other factors, may be approved by the Director. The probe and filter holder heating systems in the sampling train shall be set to provide a gas temperature no greater than 160°C. (320°F.).
3. For Method 6, the sampling site shall be the same as that selected for Method 5. The sampling point in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft.). For Method 6, the sample shall be extracted at a rate proportional to the gas velocity at the sampling point.
4. For Method 6, the minimum sampling time shall be 20 minutes and the minimum sampling volume 0.02 dscm (0.71 dscf) for each sample. The arithmetic mean of two samples shall constitute one run. Samples shall be taken at approximately 30-minute intervals.

Historical Note

Section R18-2-721 renumbered from R18-2-521 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1).

R18-2-722. Standards of Performance for Existing Gravel or Crushed Stone Processing Plants

A. The provisions of this Section are applicable to the following affected facilities: primary rock crushers, secondary rock crushers, tertiary rock crushers, screens, conveyors and conveyor transfer points, stackers, reclaimers, and all gravel or crushed stone processing plants and rock storage piles.

B. No person shall cause, allow or permit the discharge of particulate matter into the atmosphere except as fugitive emissions in any one hour from any gravel or crushed stone processing plant in total quantities in excess of the amounts calculated by one of the following equations:

1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

   $$E = 4.10P^{0.67}$$

   where:

   E = the maximum allowable particulate emissions rate in pounds-mass per hour.

   P = the process weight rate in tons-mass per hour.
2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

   $$E = 55.0P^{0.11} - 40$$

   where "E" and "P" are defined as indicated in subsection (B)(1).

C. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

D. Spray bar pollution controls shall be utilized in accordance with "EPA Control of Air Emissions From Process Operations In The Rock Crushing Industry" (EPA 340/1-79-002), "Wet Suppression System" (pages 15-34, amended as of January 1979 (and no future amendments or editions)), as incorporated ~~herein by reference and on file with the Office of the Secretary of State, with placement of spray bars and nozzles as required~~ by the Director to minimize air pollution.

E. Fugitive emissions from gravel or crushed stone processing plants shall be controlled in accordance with R18-2-604 through R18-2-607.

F. The owner or operator of any affected facility subject to the provisions of this Section shall install, calibrate, maintain, and operate monitoring devices which can be used to determine daily the process weight of gravel or crushed stone produced. The weighing devices shall have an accuracy of ± 5% over their operating range.

G. The owner or operator of any affected facility shall maintain a record of daily production rates of gravel or crushed stone produced.

H. The test methods and procedures required by this Section are as follows:

1. The reference methods in 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, shall be used to determine compliance with the standards prescribed in this Section as follows:
   a. Method 5 for concentration of particulate matter and moisture content,
   b. Method 1 for sample and velocity traverses,
   c. Method 2 for velocity and volumetric flow rate,
   d. Method 3 for gas analysis.
2. For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sample volume is 0.85 dscm (30 dscf), except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Director. Sampling shall not be started until 30 minutes after start-up and shall be terminated before shutdown procedures commence. The owner or operator of the affected facility shall eliminate cyclonic flow during performance tests in a manner acceptable to the Director.

Historical Note

Section R18-2-722 renumbered from R18-2-522 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, effective March 7, 2009 (Supp. 09-1).

R18-2-723. Standards of Performance for Existing Concrete Batch Plants

Fugitive dust emitted from concrete batch plants shall be controlled in accordance with R18-2-604 through R18-2-607.

Historical Note

Section R18-2-723 renumbered from R18-2-523 and ~~amended effective November 15, 1993 (Supp. 93-4).~~

R18-2-724. Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment

A. This Section applies to industrial and commercial installations which are less than 73 megawatts capacity (250 million Btu per hour), but in the aggregate on any premises are rated at greater than 500,000 Btu per hour (0.146 megawatts), and in which fuel is burned for the primary purpose of producing steam, hot water, hot air or other liquids, gases or solids and in the course of doing so the products of combustion do not come into direct contact with process materials. When any products or by-products of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitations shall apply.

B. For purposes of this Section, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The heat content of solid fuel shall be determined in accordance with R18-2-311. Compliance tests shall be conducted during operation at the nominal rated capacity of each unit. The total heat input of all fuel-burning units on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

C. No person shall cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any fuel-burning operation in excess of the amounts calculated by one of the following equations:

1. For equipment having a heat input rate of 4200 million Btu per hour or less, the maximum allowable emissions shall be determined by the following equation:

   $E = 1.02Q^{0.769}$

   where:

   E = the maximum allowable particulate emissions rate in pounds-mass per hour.

   Q = the heat input in million Btu per hour.

2. For equipment having a heat input rate greater than 4200 million Btu per hour, the maximum allowable emissions shall be determined by the following equation:

   $E = 17.0Q^{0.432}$

   where "E" and "Q" have the same meanings as in subsection (C)(1).

D. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

E. Fossil-fuel fired industrial and commercial equipment installations shall not emit more than 1.0 pounds of sulfur dioxide per million Btu heat input when low sulfur oil is fired.

F. Fossil-fuel fired industrial and commercial equipment installations shall not emit more than 2.2 pounds of sulfur dioxide per million Btu heat input when high sulfur oil is fired.

G. Any permit issued for the operation of an existing source, or any renewal or modification of such a permit, shall include a condition prohibiting the use of high sulfur oil by the permittee. This condition may be omitted from the permit if the applicant demonstrates to the satisfaction of the Director both that sufficient quantities of low sulfur oil are not available for use by the source and that it has adequate facilities and contingency plans to ensure that the sulfur dioxide ambient air quality standards set forth in R18-2-202 will not be violated.

1. The terms of the permit may authorize the use of high sulfur oil under such conditions as are justified.
2. In cases where the permittee is authorized to use high sulfur oil, it shall submit to the Department monthly reports detailing its efforts to obtain low sulfur oil.
3. When the conditions justifying the use of high sulfur oil no longer exist, the permit shall be modified accordingly.
4. Nothing in this Section shall be construed as allowing the use of a supplementary control system or other form of dispersion technology.

H. When coal is fired, fossil-fuel fired industrial and commercial equipment installations shall not emit more than 1.0 pounds of sulfur dioxide per million Btu heat input.

I. The owner or operator subject to the provisions of this Section shall install, calibrate, maintain and operate a continuous monitoring system for measurement of the opacity of emissions discharged into the atmosphere from the control device.

J. For the purpose of reports required under excess emissions reporting required by R18-2-310.01, the owner or operator shall report all six-minute periods in which the opacity of any plume or effluent exceeds 15%.

K. The test methods and procedures required by this Section are as follows:

1. The reference methods in 40 CFR 60, Appendix A, as incorporated by reference in Appendix 2 of this Chapter, shall be used to determine compliance with the standards as prescribed in this Section.
   a. Method 1 for selection of sampling site and sample traverses,
   b. Method 3 for gas analysis to be used when applying Reference Methods 5 and 6,
   c. Method 5 for concentration of particulate matter and the associated moisture content,
   d. Method 6 for concentration of SO_2.
2. For Method 5, Method 1 shall be used to select the sampling site and the number of traverse sampling points. The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf), except that smaller sampling times or volumes, when necessitated by process variables or other factors, may be approved by the Director. The probe and filter holder heating systems in the sampling train shall be set to provide a gas temperature no greater than 160°C. (320°F.).
3. For Method 6, the sampling site shall be the same as that selected for Method 5. The sampling point in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). For Method 6, the sample shall be extracted at a rate proportional to the gas velocity at the sampling point.
4. For Method 6, the minimum sampling time shall be 20 minutes and the minimum sampling volume 0.02 dscm (0.71 dscf) for each sample. The arithmetic mean of two samples shall constitute one run. Samples shall be taken at approximately 30-minute intervals.
5. Gross calorific value shall be determined in accordance with the applicable ASTM methods: D-2015-91 (Test for Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter) for solid fuels; D-240-87 (Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter) for liquid fuels; and D-1826-88 (Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter) for gaseous fuels. The rate of fuels burned during each testing period shall be determined by suitable methods and shall be confirmed by a material balance over the fossil-fuel fired system.

Historical Note

Section R18-2-724 renumbered from R18-2-524 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 7 A.A.R. 1164, effective February 15, 2001 (Supp. 01-1). Amended by final rulemaking at 15 A.A.R. 281~~, effective March 7, 2009 (Supp. 09-1)~~.

~~R18-2-725. Standards of Performance for Existing Dry~~ Cleaning Plants

A. No person shall conduct any dry cleaning operation using chlorinated synthetic solvents without minimizing organic solvent emissions by good modern practices including but not limited to the use of an adequately sized and properly maintained activated carbon absorber or other equally effective control device.

B. No person shall operate any dry cleaning establishment using petroleum solvents other than non-photochemically reactive solvents without reducing solvent emissions by at least 90%. For purposes of this subsection, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds ~~classified in subsections (B)(1) through (3), or which exceeds~~

R18-2-725. Standards of Performance for Existing Dry Cleaning Plants

A. No person shall conduct any dry cleaning operation using chlorinated synthetic solvents without minimizing organic solvent emissions by good modern practices including but not limited to the use of an adequately sized and properly maintained activated carbon absorber or other equally effective control device.

B. No person shall operate any dry cleaning establishment using petroleum solvents other than non-photochemically reactive solvents without reducing solvent emissions by at least 90%. For purposes of this subsection, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds classified in subsections (B)(1) through (3), or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:
1. A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation -- hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5%.
2. A combination of aromatic compounds with 8 or more carbon atoms to the molecule except ethylbenzene: 8%.
3. A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichlorethylene or toluene: 20%.

C. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to the adjoining property.

Historical Note

Section R18-2-725 renumbered from R18-2-525 effective November 15, 1993 (Supp. 93-4).

~~B. No person shall operate any dry cleaning establishment using~~a petroleum solvents other than non-photochemically reactive solvents without reducing solvent emissions by at least 90%. For purposes of this subsection, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds classified in subsections (B)(1) through (3), or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

1. A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation -- hydrocarbons, alcohols, aldehydes, esters, ethers, ora ketones: 5%.a
2.a A combination of aromatic compounds with 8 or more carbon atoms to the molecule except ethylbenzene: 8%.a
3. A combination of ethylbenzene, ketones having brancheda hydrocarbon structures, trichlorethylene or toluene: 20%.a

C. Where a stack, vent or other outlet is at such a level that fumes,a gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, thea Director may require the installation of abatement equipmenta or the alteration of such stack, vent, or other outlet by the owner or operator thereof to a degree that will adequatelya dilute, reduce or eliminate the discharge of air pollution to the adjoining property.

a **Historical Note**

Section R18-2-725 renumbered from R18-2-525 effective ~~November 15, 1993 (Supp. 93-4).~~

R18-2-726. Standards of Performance for Sandblasting Operations

No person shall cause or permit sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Examples of good modern practices include wet blasting and the use of effective enclosures with necessary dust collecting equipment.

Historical Note

Section R18-2-726 renumbered from R18-2-526 ~~effective November 15, 1993 (Supp. 93-4)~~.a

~~R18-2-727. Standards of Performance for Spray Pai nting~~ Operations

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A. No person shall conduct any spray paint operation without minimizing organic solvent emissions. Such operations othera than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96% of the overspray. a

B. No person shall either:

1. Employ, apply, evaporate or dry any architectural coatinga containing photochemically reactive solvents for industrial or commercial purposes; ora
2. Thin or dilute any architectural coating with a photochemically reactive solvent.

C. For purposes of subsection (B), a photochemically reactivea solvent shall be any solvent with an aggregate of more thana 20% of its total volume composed of the chemical compoundsa classified ina subsections (1) through (3), or which exceeds anya of the following percentage composition limitations, referreda to the total volume of solvent:a

1. A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation -- hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5%. a
2. A combination of aromatic compounds with 8 or more ~~carbon atoms to the molecule except ethylbenzene: 8%.~~

~~3. A combination of ethylbenzene, ketones having branch~~raa hydrocarbon structures, trichlorethylene or toluene: 20%.

~~D. Whene y organic solvent or any constitu if an organic~~ solvent may be classified from its chemical structure into more than one of the groups or organic compounds described in subsection (C)(1) through (3), it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

Historical Note

Section R18-2-727 renumbered from R18-2-527 effective ~~November 15, 1993 (Supp. 93-4).~~

R18-2-727. Standards of Performance for Spray Painting Operations

A. No person shall conduct any spray paint operation without minimizing organic solvent emissions. Such operations other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96% of the overspray.

B. No person shall either:
1. Employ, apply, evaporate or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or
2. Thin or dilute any architectural coating with a photochemically reactive solvent.

C. For purposes of subsection (B), a photochemically reactive solvent shall be any solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds classified in subsections (1) through (3), or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:
1. A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation -- hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5%.
2. A combination of aromatic compounds with 8 or more carbon atoms to the molecule except ethylbenzene: 8%.
3. A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichlorethylene or toluene: 20%.

D. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than 1 of the groups or organic compounds described in subsection (C)(1) through (3), it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

Historical Note

Section R18-2-727 renumbered from R18-2-527 effective November 15, 1993 (Supp. 93-4).

~~B. No person shall operate any dry cleaning establishment using~~a petroleum solvents other than non-photochemically reactive solvents without reducing solvent emissions by at least 90%. For purposes of this subsection, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds classified in subsections (B)(1) through (3), or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

1. A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation -- hydrocarbons, alcohols, aldehydes, esters, ethers, ora ketones: 5%.a
2. a A combination of aromatic compounds with 8 or more carbon atoms to the molecule except ethylbenzene: 8%.a
3. A combination of ethylbenzene, ketones having brancheda hydrocarbon structures, trichlorethylene or toluene: 20%.a

C. Where a stack, vent or other outlet is at such a level that fumes,a gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, thea Director may require the installation of abatement equipmenta or the alteration of such stack, vent, or other outlet by the owner or operator thereof to a degree that will adequatelya dilute, reduce or eliminate the discharge of air pollution to the adjoining property.

a **Historical Note**

Section R18-2-725 renumbered from R18-2-525 effective ~~November 15, 1993 (Supp. 93-4).~~

~~**R18-2-727. Standards of Performance for Spray Pai nting**~~ **Operations** a

A. No person shall conduct any spray paint operation without minimizing organic solvent emissions. Such operations othera than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96% of the overspray. a

B. No person shall either:

1. Employ, apply, evaporate or dry any architectural coatinga containing photochemically reactive solvents for industrial or commercial purposes; ora
2. Thin or dilute any architectural coating with a photochemically reactive solvent.

C. For purposes of subsection (B), a photochemically reactivea solvent shall be any solvent with an aggregate of more thana 20% of its total volume composed of the chemical compoundsa classified inasubsections (1) through (3), or which exceeds anya of the following percentage composition limitations, referreda to the total volume of solvent:a

1. A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation -- hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5%. a
2. A combination of aromatic compounds with 8 or more ~~carbon atoms to the molecule except ethylbenzene: 8%.~~
3. ~~A combination of ethylbenzene, ketones having branche~~ braa h drocarbon structures, trichlorethylene or toluene. 20%.

~~D. Whene y organic solvent or any constitu t an organic~~ solvent may be classified from its chemical structure into more than one of the groups or organic compounds described in subsection (C)(1) through (3), it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

Historical Note

Section R18-2-727 renumbered from R18-2-527 effective ~~November 15, 1993 (Supp. 93-4).~~

R18-2-728. Standards of Performance for Existing Ammonium Sulfide Manufacturing Plants

A.a The provisions of this Section are applicable to the followinga affected facilities in ammonium sulfide manufacturing plants:a sulfide unloading facilities, reactor-absorbers, bubble capa scrubbers, and fume incinerators.a

B. No person shall cause, allow or permit to be emitted into the atmosphere, from any type of incinerator or other outlet smoke, fumes, gases, particulate matter or other gas-borne material, the opacity of which exceeds 20%.

C. No person shall cause, allow or permit to be emitted into thea atmosphere from any emission point from any incinerator, or to pass a convenient measuring point near such emission point,a particulate matter of concentrations in excess of 0.1 grain per cubic foot, based on dry flue gas at standard conditions, corrected to 12% carbon dioxide.a

D. No person shall allow hydrogen sulfide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceedsa 0.03 parts per million by volume for any averaging period ofa 30 minutes or more.a

E.a Where a stack, vent or other outlet is at such a level that fumes,a gas mist, odor, smoke, vapor or any combination thereof constituting air pollution are discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the owner or operator thereof to a degree that will adequatelya dilute, reduce or eliminate the discharge of air pollution toa adjoining property.a

F. The owner or operator of any ammonium sulfide tailgas incinerator subject to the provisions of this Section shall do both of the following:

1. Install, calibrate, maintain, and operate a flow measuringa device which can be used to determine either the mass ora volume of tailgas charged to the incinerator. The flowa measuring device shall have an accuracy of ± 5% over its operating range.
2. Provide access to the tail gas charged so that a well-mixeda representative grab sample can be obtained.a

G. The test methods and procedures required by this Section are as follows:a

1. a The reference methods in 40 CFR 60, Appendix A shall be used to determine compliance with the standards prescribed in this Section as follows:
    a. Method 5 for the concentration of particulate matter and the associated moisture content;
    b. Method 1 for sample and velocity traverse;
    c. Method 2 for velocity and volumetric flow rate;
    d. Method 3 for gas analysis and calculation of excess air, using the integrated sample technique;
    e. Method 11 shall be used to determine the concentration of H_2S and Method 6 shall be used to determine the concentration of SO_2.a

2. For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 0.85 dscm (30.0 dscf) except that shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Director.
3. Particulate matter emissions, expressed in g/dscm, shall be corrected to 12% CO_2 by using the following formula:

   $$C_{12} = \frac{12c}{\%CO_2}$$

   where:

   C_{12} = the concentration of particulate matter corrected to 12% CO_2,

   c = the concentration of particulate matter as measured by Method 5, and

   $\%CO_2$ = the percentage of CO_2 as measured by Method 3, or, when applicable, the adjusted outlet CO_2 percentage.
4. If Method 11 is used, the gases sampled shall be introduced into the sampling train at approximately atmospheric pressure. Where fuel gas lines are operating at pressures substantially above atmosphere, this may be accomplished with a flow control valve. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train. The sample shall be drawn from a point near the centroid of the fuel gas line. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples of equal sampling time shall constitute one run. Samples shall be taken at approximately one-hour intervals. For most fuel gases, sample times exceeding 20 minutes may result in depletion of the collecting solution, although fuel gases containing low concentrations of hydrogen sulfide may necessitate sampling for longer periods of time.
5. If Method 5 is used, Method 1 shall be used for velocity traverses and Method 2 for determining velocity and volumetric flow rate. The sampling site for determining CO_2 concentration by Method 3 shall be the same as for determining volumetric flow rate by Method 2. The sampling point in the duct for determining SO_2 concentration by Method 3 shall be at the centroid of the cross section if the cross sectional area is less than 5 m^2 (54 ft^2) or at a point no closer to the walls than 1 m (3.28 feet) if the cross sectional area is 5 m^2 or more and the centroid is more than 1 meter from the wall. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.36 dscf) for each sample. The arithmetic average of two samples of equal sampling time shall constitute one run. Samples shall be taken at approximately one-hour intervals.

Historical Note

Section R18-2-728 renumbered from R18-2-528 ~~effective November 15, 1993 (Supp. 93-4)~~.

~~**R18-2-729. Standards of Performance for Cotton Gins**~~

A. ~~Fugitive~~ dust, lint, bolls, cotton seed or other ~~material~~ emitted from a cotton ~~gin or~~ lying loose in ~~a yard~~ shall be collected and disposed of in an ~~efficient manner~~ or shall be treated in accordance ~~with R18-2-~~604 through ~~R18-2-607~~.

~~B.~~ No person shall cause, allow or permit to be ~~emitted~~ into the ~~atmosphere, from any type of incinerator, smoke, fumes, gases, particulate matter or other gas-borne material which~~ ~~exceeds 40% opacity.~~

~~C. No person shall cause, allow, or permit the discharge of particulate matter into the atmosphere in any one hour from any cotton gin in total quantities in excess of the amounts calculated by one of the following equations:~~

~~1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:~~

~~$E = 4.10P^{0.67}$~~

~~where:~~

~~E = the maximum allowable particulate emissions rate in pounds-mass per hour.~~

~~P = the process weight rate in tons-mass per hour.~~

~~2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:~~

~~$E = 55.0P^{0.11}-40$~~

~~where "E" and "P" are defined as indicated in subsection (C)(1).~~

~~**D.** The test methods and procedures required by this Section are as follows:~~

~~1. The reference methods in the Arizona Testing Manual and 40 CFR 60, Appendix A shall be used to determine compliance with this Section as follows:~~
   - ~~a. Method A-2 for the measurement of particulate matter,~~
   - ~~b. Method 1 for sample and velocity traverses,~~
   - ~~c. Method 2 for velocity and volumetric flow rate,~~
   - ~~d. Method 3 for gas analysis,~~
   - ~~e. Method 9 for visible emissions.~~

~~2. For Method A-2, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dry standard cubic meters per hour (0.53 dry standard cubic feet per minute), except that shorter sampling times, when necessitated by progress variables or other factors, may be approved by the Director.~~

~~**Historical Note**~~

~~Section R18-2-729 renumbered from R18-2-529 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 13 A.A.R. 2157, effective August 4, 2007 (Supp. 07-2).~~

~~**R18-2-730. Standards of Performance for Unclassified Sources**~~

~~A. No existing source which is not otherwise subject to standards of performance under this Article or Article 9 or 11 of this Chapter, shall cause or permit the emission of pollutants at rates greater than the following:~~

~~1. For particulate matter discharged into the atmosphere in any one hour from any unclassified process source in total quantities in excess of the amounts calculated by one of the following equations:~~
   - ~~a. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:~~

     ~~$E = 4.10P^{0.67}$~~

     ~~where:~~

     ~~E = the maximum allowable particulate emissions rate in pounds-mass per hour.~~

     ~~P = the process weight rate in tons-mass per hour.~~

~~$$C_{12} = \frac{12c}{\%CO_2}$$~~

~~where:~~

~~C_{12} = the concentration of particulate matter corrected to 12% CO_2,~~

~~c = the concentration of particulate matter as measured by Method 5, and~~

~~$\%CO_2$ = the percentage of CO_2 as measured by Method 3, or, when applicable, the adjusted outlet CO_2 percentage.~~

4. ~~If Method 11 is used, the gases sampled shall be introduced into the sampling train at approximately atmospheric pressure. Where fuel gas lines are operating at pressures substantially above atmosphere, this may be accomplished with a flow control valve. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train. The sample shall be drawn from a point near the centroid of the fuel gas line. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples of equal sampling time shall constitute one run. Samples shall be taken at approximately one-hour intervals. For most fuel gases, sample times exceeding 20 minutes may result in depletion of the collecting solution, although fuel gases containing low concentrations of hydrogen sulfide may necessitate sampling for longer periods of time.~~
5. ~~If Method 5 is used, Method 1 shall be used for velocity traverses and Method 2 for determining velocity and volumetric flow rate. The sampling site for determining CO_2 concentration by Method 3 shall be the same as for determining volumetric flow rate by Method 2. The sampling point in the duct for determining SO_2 concentration by Method 3 shall be at the centroid of the cross section if the cross sectional area is less than 5 m^2 (54 ft^2) or at a point no closer to the walls than 1 m (3.28 feet) if the cross sectional area is 5 m^2 or more and the centroid is more than 1 meter from the wall. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.36 dscf) for each sample. The arithmetic average of two samples of equal sampling time shall constitute one run. Samples shall be taken at approximately one-hour intervals.~~

~~Historical Note~~

~~Section R18-2-728 renumbered from R18-2-528 effective November 15, 1993 (Supp. 93-4).~~

R18-2-729. Standards of Performance for Cotton Gins

A. Fugitive dust, lint, bolls, cotton seed or other material emitted from a cotton gin or lying loose in a yard shall be collected and disposed of in an efficient manner or shall be treated in accordance with R18-2-604 through R18-2-607.

B. No person shall cause, allow or permit to be emitted into the atmosphere, from any type of incinerator, smoke, fumes, gases, particulate matter or other gas-borne material which exceeds 40% opacity.

C. No person shall cause, allow, or permit the discharge of particulate matter into the atmosphere in any one hour from any cotton gin in total quantities in excess of the amounts calculated by one of the following equations:

1. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

   $E = 4.10P^{0.67}$

   where:

   E = the maximum allowable particulate emissions rate in pounds-mass per hour.

   P = the process weight rate in tons-mass per hour.
2. For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

   $E = 55.0P^{0.11}-40$

   where "E" and "P" are defined as indicated in subsection (C)(1).

D. The test methods and procedures required by this Section are as follows:

1. The reference methods in the Arizona Testing Manual and 40 CFR 60, Appendix A shall be used to determine compliance with this Section as follows:
   a. Method A-2 for the measurement of particulate matter,
   b. Method 1 for sample and velocity traverses,
   c. Method 2 for velocity and volumetric flow rate,
   d. Method 3 for gas analysis,
   e. Method 9 for visible emissions.
2. For Method A-2, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dry standard cubic meters per hour (0.53 dry standard cubic feet per minute), except that shorter sampling times, when necessitated by progress variables or other factors, may be approved by the Director.

Historical Note

Section R18-2-729 renumbered from R18-2-529 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 13 A.A.R. 2157, ~~effective August 4, 2007 (Supp. 07-2)~~.

R18-2-730. Standards of Performance for Unclassified Sources

A. No existing source which is not otherwise subject to standards of performance under this Article or Article 9 or 11 of this Chapter, shall cause or permit the emission of pollutants at rates greater than the following:

1. For particulate matter discharged into the atmosphere in any one hour from any unclassified process source in total quantities in excess of the amounts calculated by one of the following equations:
   a. For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

      $E = 4.10P^{0.67}$

      where:

      E = the maximum allowable particulate emissions rate in pounds-mass per hour.

      P = the process weight rate in tons-mass per hour.
   b. For process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

      $E = 55.0P^{0.11}-40$

      where "E" and "P" are defined as indicated in subsection (A)(1)(a).
2. Sulfur dioxide – 600 parts per million.

3. Nitrogen oxides expressed as NO_2 – 500 parts per million.

B. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

C. Actual values shall be calculated from the applicable equations and rounded off to two decimal places.

D. No person shall emit gaseous or odorous materials from equipment, operations or premises under the person's control in such quantities or concentrations as to cause air pollution.

E. No person shall operate or use any machine, equipment, or other contrivance for the treatment or processing of animal or vegetable matter, separately or in combination, unless all gaseous vapors and gas entrained effluents from such operations, equipment, or contrivance have been either:

1. Incinerated to destruction, as indicated by a temperature measuring device, at not less than 1,200°F if constructed or reconstructed prior to January 1, 1989, or 1,600°F with a minimum residence time of 0.5 seconds if constructed or reconstructed thereafter; or
2. Passed through such other device which is designed, installed and maintained to prevent the emission of odors or other air contaminants and which is approved by the Director.

F. Materials including solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory.

G. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

H. No person shall allow hydrogen sulfide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.03 parts per million by volume for any averaging period of 30 minutes or more.

I. No person shall cause, allow or permit discharge from any stationary source carbon monoxide emissions without the use of complete secondary combustion of waste gases generated by any process source.

J. No person shall allow hydrogen cyanide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.3 parts per million by volume for any averaging period of eight hours.

K. No person shall allow sodium cyanide dust or dust from any other solid cyanide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 140 micrograms per cubic meter for any averaging period of eight hours.

L. No owner or operator of a facility engaged in the surface coating of miscellaneous metal parts and products may operate a coating application system subject to this Section that emits volatile organic compounds in excess of any of the following:

1. 4.3 pounds per gallon (0.5 kilograms per liter) of coating, excluding water, delivered to a coating applicator that applies clear coatings.
2. 3.5 pounds per gallon (0.42 kilograms per liter) of coating, excluding water delivered to a coating applicator in a coating application system that is air dried or forced warm air dried at temperatures up to 194°F (90°C).
3. 3.5 pounds per gallon (0.42 kilograms per liter) of coating, excluding water, delivered to a coating applicator that applies extreme performance coatings.
4. 3.0 pounds per gallon (0.36 kilograms per liter) of coating, excluding water, delivered to a coating applicator for all other coatings and application systems.

M. If more than one emission limitation in subsection (L) applies to a specific coating, then the least stringent emission limitation shall be applied.

N. All VOC emissions from solvent washings shall be considered in the emission limitations in subsection (L), unless the solvent is directed into containers that prevent evaporation into the atmosphere.

Historical Note

Renumbered from R18-2-530 and amended effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 15 A.A.R. 281, ~~effective March 7, 2009 (Supp. 09-1)~~.

~~R18-2-731. Standards of Performance for Existing Municipal~~ Solid Waste Landfills

A. This Section applies to each municipal solid waste landfill (MSW landfill) at which:

1. Construction, reconstruction, or modification began before May 30, 1991; and
2. Waste was accepted at any time since November 8, 1987, or additional design capacity is available for future waste deposition.

B. For the purposes of this Section, "Municipal solid waste landfill or MSW landfill" means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive other types of RCRA (Resource Conservation and Recovery Act) Subtitle D wastes such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned.

C. MSW landfills covered by this Section shall comply with 40 CFR 60, Subpart WWW, as modified by this subsection. 40 CFR 60, Subpart WWW, "Standards of Performance for Municipal Solid Waste Landfills," is incorporated by reference in R18-2-901.

1. Definitions. In addition to the definitions in 40 CFR 60.751, "Administrator" means the Director of the Department of Environmental Quality.
2. Reporting. Each MSW landfill shall comply with the reporting requirements of 40 CFR 60.757. The initial design capacity report and initial NMOC emission rate report shall be due 90 days after the effective date of this rule.
3. Design plan. An MSW landfill that is required to install a collection and control system shall submit a design plan for the system to the Director with a Standard Permit Application Form not later than 12 months after it submitted or should have submitted a NMOC emission rate ~~report indicating emissions greater than 50 Mg per year.~~

~~The design plan shall be prepared by a professional engineer registered in Arizona. The Director shall not approve the design plan if it does not meet the requirements of 40 CFR 60.752(b)(2)(ii).~~

4. ~~System installation. An MSW landfill that is required to install a collection and control system shall complete installation of the system not later than 30 months after the effective date of this rule.~~
5. ~~An MSW landfill that first becomes subject to the collection and control system requirement after the effective date of this rule shall submit a design plan for the system to the Director not later than 12 months after it submitted or should have submitted an NMOC emission rate report indicating emissions greater than 50 Mg per year.~~

~~Historical Note~~

~~Adopted effective April 4, 1997; filed with the Office of the Secretary of State March 14, 1997 (Supp. 97-1).~~

R18-2-732. Standards of Performance for Existing Hospital/Medical/Infectious Waste Incinerators

A. This Section applies to any hospital/medical/infectious waste incinerator (HMIWI) for which construction was commenced on or before June 20, 1996. All federal regulations cited within this Section are incorporated by reference in R18-2-901. An incinerator subject to this Section is not subject to R18-2-704. The following types of incinerators are not subject to this Section:

1. An incinerator during periods when only pathological waste, low-level radioactive waste, or chemotherapeutic waste is burned, if the owner or operator of the incinerator does both of the following:
   a. Notifies the Director of an exemption claim.
   b. Keeps records on a calendar quarter basis of the periods of time when only pathological waste, low-level radioactive waste, or chemotherapeutic waste is burned.
2. Any co-fired incinerator if the owner or operator of the incinerator does all of the following:
   a. Notifies the Director of an exemption claim.
   b. Provides an estimate of the relative weight of hospital waste, medical/infectious waste, and other fuels or wastes to be burned.
   c. Keeps records on a calendar quarter basis of the weight of hospital waste and medical/infectious waste burned, and the weight of all other fuels and wastes burned at the co-fired incinerator.
3. Any incinerator required to have a permit under Section 3005 of the Solid Waste Disposal Act.
4. Any incinerator subject to 40 CFR 60, Subparts Cb, Ea, or Eb (standards or guidelines for certain municipal waste incinerators).
5. Any pyrolysis unit, as defined in 40 CFR 60.51c.
6. Cement kilns firing hospital waste or medical/infectious waste.

B. A physical or operational change made to an existing HMIWI unit solely for the purpose of complying with emission limitations under this Section is not considered a modification and does not result in an existing HMIWI unit becoming subject to the provisions of R18-2-901(9).

C. In addition to the definitions provided in 40 CFR 60.51c, the following definitions apply to this Section:

1. "Rural HMIWI" means any small HMIWI that is located more than 50 miles from the boundary of the nearest Standard Metropolitan Statistical Area and that burns less than 2,000 pounds per week of hospital waste and medical/infectious waste. The 2,000 pounds per week limitation does not apply during performance tests.
2. "Standard Metropolitan Statistical Area" or "SMSA" means any area listed in Office of Management and Budget (OMB) Bulletin 93-17 entitled "Revised Statistical Definitions for Metropolitan Areas" dated June 30, 1993 which is incorporated by reference. This incorporation by reference does not include any later amendments or editions. A copy of the bulletin is on file with the Office of the Secretary of State and the Department.
3. "State Plan" means the plan that 40 CFR 60 subpart Ce requires states to develop to regulate existing HMIWI built on or before June 20, 1996.

D. Beginning September 15, 2000, an HMIWI shall operate under a Class I permit.

E. An owner or operator of an HMIWI shall comply with the following emissions limitations:

1. The emissions limitations in Table 1 unless the HMIWI is a rural HMIWI.
2. The emissions limitations in Table 2, if the HMIWI is a rural HMIWI.
3. An owner or operator of an HMIWI shall not cause to be discharged into the atmosphere from the stack of that HMIWI any gases that exhibit greater than 10% opacity (6-minute block average).
4. An owner or operator of a large existing HMIWI shall comply with the opacity requirements in 40 CFR 60.52c (c), (d), and (e).

F. An owner or operator of an HMIWI shall comply with the operator training requirements found in 40 CFR 60.53c within one year following approval of the State Plan.

G. An owner or operator of an HMIWI shall comply with the waste management requirements found in 40 CFR 60.55c.

H. An owner or operator of a rural HMIWI shall comply with the following inspection requirements:

1. The owner or operator shall conduct or hire another party to conduct an initial equipment inspection within one year following approval of the State Plan.
2. At a minimum, an inspection shall include the following:
   a. Inspect all burners, pilot assemblies, and pilot sensing devices for proper operation. Clean pilot flame sensor, as necessary.
   b. Inspect adjustment of primary and secondary chamber combustion air, and adjust as necessary.
   c. Inspect hinges and door latches, and lubricate as necessary.
   d. Inspect dampers, fans, and blowers for proper operation.
   e. Inspect HMIWI door and door gaskets for proper sealing.
   f. Inspect motors for proper operation.
   g. Inspect primary chamber refractory lining. Clean and repair or replace lining as necessary.
   h. Inspect incinerator shell for corrosion and hot spots.
   i. Inspect secondary/tertiary chamber and stack, clean as necessary.
   j. Inspect mechanical loader, including limit switches, for proper operation, if applicable.
   k. Visually inspect waste bed (grates), and repair or seal, as appropriate.
   l. For the burn cycle that follows the inspection, document that the incinerator is operating properly and make any necessary adjustments.
   m. Inspect each air pollution control device for proper operation, if applicable.

n. Inspect waste heat boiler systems to ensure proper operation, if applicable.
o. Inspect bypass stack components.
p. Ensure proper calibration of thermocouples, sorbent feed systems and any other monitoring equipment.
q. Generally observe that the equipment is maintained in good operating condition.

3. Within 10 operating days following an equipment inspection, the owner or operator shall complete all necessary repairs unless the owner or operator obtains written approval from the Director establishing a date by which all necessary repairs of the facility shall be completed.
4. The owner or operator of any rural HMIWI shall conduct or hire another party to conduct an equipment inspection annually (no more than 12 months following the previous annual equipment inspection), as outlined in subsections (2) and (3).

I. An owner or operator of an HMIWI shall comply with the following compliance, performance testing, and monitoring requirements:

1. Except as provided in subsection (2), an existing HMIWI shall meet the requirements for compliance and performance testing in 40 CFR 60.56c, excluding the fugitive emissions testing requirements under 40 CFR 60.56c(b)(12) and (c)(3).
2. A rural HMIWI shall meet the following compliance and performance testing requirements:
   a. Conduct the performance testing requirements in 40 CFR 60.56c(a), (b)(1) through (b)(9), (b)(11) (Hg only), and (c)(1). The 2,000 lb/week limitation under 40 CFR 60.33e(b) does not apply during performance tests.
   b. Establish maximum charge rate and minimum secondary chamber temperature as site-specific operating parameters during the initial performance test to determine compliance with applicable emission limitations.
   c. Ensure that the facility does not operate above the maximum charge rate or below the minimum secondary chamber temperature measured as three-hour rolling averages (calculated each hour as the average of the previous three operating hours) at all times except during periods of startup, shutdown, and malfunction. Operating parameter limits do not apply during performance tests. Operation above the maximum charge rate or below the minimum secondary chamber temperature is a violation of the established operating parameter.
   d. Except as provided in subsection (I)(2)(e), operating the facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a three-hour rolling average) simultaneously is a violation of the PM, CO, and dioxin/furan emission limitations.
   e. The owner or operator may conduct a repeat performance test within 30 days after violation of any applicable operating parameter to demonstrate that the facility is not in violation of any applicable emission limit. Repeat performance tests conducted under this subsection shall be conducted using the identical operating parameters that indicated a violation under subsection (I)(2)(d).
3. The owner or operator shall comply with the monitoring requirements listed in 40 CFR 60.57c of subpart Ec, except as provided in subsection (I)(4).
4. A rural HMIWI shall meet the following monitoring requirements:
   a. Install, calibrate (to manufacturer's specifications), maintain, and operate a device for measuring and recording the temperature of the secondary chamber on a continuous basis, the output of which shall be recorded, at a minimum, once every minute throughout operation.
   b. Install, calibrate (to manufacturer's specifications), maintain, and operate a device that automatically measures and records the date, time, and weight of each charge fed into the HMIWI.
   c. Obtain monitoring data at all times during HMIWI operation except during periods of monitoring equipment malfunction, calibration, or repair. At a minimum, valid monitoring data shall be obtained for 75% of the operating hours per day and for 90% of the operating hours per calendar quarter that the facility is incinerating hospital waste or medical/infectious waste.

J. An owner or operator of an HMIWI shall comply with the following reporting and recordkeeping requirements:

1. An owner or operator of each HMIWI shall comply with the requirements listed in 40 CFR 60.58c(b), (c), (d), (e), and (f), excluding 40 CFR 60.58c(b)(2)(ii) (fugitive emissions) and (b)(7) (siting).
2. An owner or operator of each rural HMIWI shall perform all the following:
   a. Maintain records of the annual equipment inspections, any required maintenance, and any repairs not completed within 10 days after an inspection or the time-frame established by the Director.
   b. Submit an annual report to ADEQ, Air Quality Division. The report shall contain information recorded under subsection (2)(a) and be submitted no later than 60 days following the year in which data were collected. The owner or operator shall send subsequent reports no later than 12 calendar months following the previous report (after receiving a Class I permit, the owner or operator shall submit these reports semiannually). The facility's manager shall sign the report.

Historical Note

New Section adopted by final rulemaking at 5 A.A.R. 3058, effective August 10, 1999 (Supp. 99-3). Amended by final rulemaking at 13 A.A.R. 2157~~, effective August 4, 2007 (Supp. 07-2)~~.

~~R18-2-733. Incorporation of Federal Standards of Performance for Mercury Emissions from Coal-Fired Electric Steam Generating Units~~

~~**A.** The provisions of 40 CFR §§ 60.4101-4176, subpart HHHH, Emission Guidelines and Compliance Times for Coal-Fired Electric Steam Generating Units, as of July 1, 2006 (and no future amendments or editions) are incorporated by reference, as modified by subsection (B), and are on file with the Department. The definitions of terms in 40 CFR § 60.4102 shall apply to this Section.~~

~~**B.** The introductory language preceding paragraph (1) in subsection 60.4142(c) is replaced with the following: "For each control period in 2010 and thereafter, the permitting authority shall allocate Hg allowances to Hg Budget units in the state that commenced operation on or after January 1, 2001, and that have not been allocated allowances for that control period pursuant to § 60.4141(b) in accordance with the following:"~~