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# Rules of Department of Natural Resources

## Division 10—Air Conservation Commission

### Chapter 3—Air Pollution Control Rules Specific to the Outstate Missouri Area

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**Title 10—DEPARTMENT OF  
NATURAL RESOURCES**

**Division 10—Air Conservation  
Commission**

**Chapter 3—Air Pollution Control Rules  
Specific to the Outstate Missouri Area**

**10 CSR 10-3.010 Auto Exhaust Emission  
Controls**

*PURPOSE: This rule requires proper maintenance of original emission control devices and systems on 1968 and subsequent year motor vehicles.*

(1) Definitions of terms specified in this rule may be found in 10 CSR 10-6.020.

(2) Ignition System and Engine Speed. All 1968 and subsequent model year gasoline-powered motor vehicles shall be maintained so as to be in compliance with the following requirements:

(A) The number of revolutions per minute of an engine while operating at idle speed shall be in accordance with the specifications and determined under conditions published by the manufacturer, but in no case shall the idle speed be less than the minimum specified in the manufacturer's published specifications. Revolutions per minute shall be determined by a tachometer or other device which shall be tested for accuracy and precision at reasonable intervals under those terms and conditions as the staff director may direct;

(B) Ignition timing of an engine shall comply with the published specifications of the manufacturer as determined in accordance with procedures and conditions specified by the manufacturer; and

(C) All cylinders shall be firing.

(3) Crankcase Ventilation System. The positive crankcase ventilation system on all 1968 and subsequent model year gasoline-powered motor vehicles, except motorcycles and motor tricycles, and all 1969 and subsequent model year gasoline-powered motor vehicles, including motorcycles and motor tricycles, shall meet the following requirements:

(A) The plumbing and connections shall be properly connected as installed by the manufacturer and free of obstructions and leakage;

(B) There shall be a negative pressure (suction) at the inlet of the crankcase ventilation valve; and

(C) The crankcase ventilation valve shall be freely operative so as to regulate the flow of gases through the system.

(4) Exhaust Emission Control Systems.

(A) Air Injection Systems. Exhaust emission control air injection systems on those

gasoline-powered motor vehicles so equipped by the manufacturer shall operate so that—

1. The air delivery hoses, connections and air distribution manifold shall be properly connected as installed by the manufacturer and free of obstructions and leakage;

2. The air compressor drive belt tension shall be within manufacturer's specification;

3. There is a positive air flow from the air pump to the air delivery distribution manifold;

4. The check valve prevents any reverse air flow from the air distribution manifold out through the check valve inlet; and

5. The antbackfire valve, gulp-valve, air bypass valve or other similar device with the same function permits the passage of air from the air pump to the exhaust manifold(s), except when the carburetor throttle is closed rapidly from an open position as in deceleration.

(B) Engine Modification Systems. All vacuum control valves, vacuum lines, mechanical linkage, electrical circuits and switches peculiar to certain engine modification systems shall be properly connected as installed on all 1968 and subsequent model year gasoline-powered motor vehicles so equipped by the manufacturer.

(C) The requirements of section (4) shall apply to all gasoline-powered motor vehicles with the following exceptions:

1. Vehicles of 1967 or earlier model year;

2. Vehicles not equipped by the manufacturer with exhaust emission control air injection systems;

3. Commercial vehicles of over one thousand pounds (1000 lbs.) designed capacity; or

4. Motor vehicles with an engine displacement of less than fifty (50) cubic inches (819.35 cubic centimeters).

*AUTHORITY: section 643.050, RSMo Supp. 1992.\* Original rule filed April 26, 1968, effective May 6, 1968. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978.*

*\*Original authority 1965, amended 1972, 1992.*

*Op. Atty. Gen. No. 331, Shell (11-15-71). The Missouri Air Conservation Commission does not have any specific authority to require the installation of emission monitoring devices, but does have the authority to require reports from sources of air pollution relating to rate, period of emission and composition of effluent, and to make such information available to the public, unless any such information is "confidential" as defined by section 203.050.4., RSMo 1969.*

**10 CSR 10-3.020 Approval of Planned  
Installations**

(Rescinded April 11, 1980)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed Sept. 8, 1970, effective Sept. 18, 1970. Amended: Filed Jan. 31, 1972, effective Feb. 10, 1972. Amended: Filed Aug. 25, 1972, effective Sept. 4, 1972. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978. Rescinded: Filed Dec. 10, 1979, effective April 11, 1980.*

*Op. Atty. Gen. No. 331, Shell (11-15-71). The Missouri Air Conservation Commission has the authority under Chapter 203, RSMo 1969, to provide for the equivalent of a construction permit system by promulgating rules to require the submission of plans and specifications for approval before any person may construct any facility which will cause air pollution, but that the commission has no such authority regarding an equivalent permit system for the operation of existing facilities which are the source of air pollution.*

**10 CSR 10-3.030 Open Burning Restrictions**

*PURPOSE: This rule prohibits the disposal of refuse by open burning except as provided under specified conditions.*

(1) Applicability. This rule shall apply throughout Missouri except in the City of St. Louis and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene Counties.

(2) Definitions of terms specified in this rule may be found in 10 CSR 10-6.020. Staff director as used in this rule refers to the director of the Air Pollution Control Program or his/her designee.

(3) General Provisions. No person may conduct, cause, permit or allow the disposal of trade waste, construction waste, salvage operation waste, or demolition project waste by open burning, except as provided for in section (4). This open burning prohibition includes, but is not limited to, tires, rubber products, asbestos-containing material, hazardous material, styrofoam, plastics, petroleum-based products, treated wood and other refuse.

(4) Exceptions.

(A) The open burning of certain trade wastes and vegetation may be permitted only when it can be shown that an emergency exists which requires open burning, or when

it can be shown that open burning is the only safe or feasible method of disposal. Economic considerations shall not be the primary determinant of feasibility. Any person intending to engage in open burning shall file an application with and receive written approval from the staff director. The application shall state the following:

1. The name, address and telephone number of the person submitting the application;
2. The type of business or activity involved;
3. A description of the proposed equipment and operating practices, the type, quantity and composition of trade wastes and vegetation to be burned and expected composition and amount of air contaminants to be released to the atmosphere where known;
4. The schedule of burning operations;
5. The exact location where open burning will be used to dispose of the trade wastes and vegetation;
6. Reasons why an emergency exists or no method other than open burning is feasible; and
7. Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction. Upon receiving written approval of the application by the staff director, the person may proceed with the operation without being in violation of section (3) of this rule, but approval shall not exempt the applicant from complying with the provisions of any other law, ordinance or rule.

(B) An open burning permit may be issued by the staff director for open burning on a temporary basis at a sanitary landfill, demolition landfill, compost plant, transfer station or salvage operation; provided, that—

1. The sanitary landfill, demolition landfill, compost plant, transfer station or salvage operation has a valid permit issued by the Missouri Department of Natural Resources Solid Waste Management Program, or is approved for open burning by the staff director in cases where a Solid Waste Management Program permit is not required;
2. Only tree trunks, tree limbs, vegetation (excluding leaves or lawn clippings) or untreated waste lumber are burned;
3. The open burning will take place at a time of day when atmospheric conditions will permit adequate dispersion of smoke and shall require the use of an air curtain destructor. The air curtain destructor shall be properly operated so as to minimize emissions and, other than during startup periods, shall not exceed twenty percent (20%) opacity when operating;

4. The distance from the open burning site to the nearest inhabited residence or commercial business is at least two hundred (200) yards or greater distances as determined by the staff director to be required to prevent a nuisance;

5. The open burning will not hinder the operation of the installation itself, ignite material other than that specified in paragraph (4)(B)2. or otherwise create a fire hazard;

6. The fire control authority which has jurisdiction approves the method and site of open burning;

7. The owner or operator complies with all applicable laws, rules and ordinances regulating open burning;

8. The owner or operator submits information to the staff director prior to the issuance of the permit showing that the conditions of this subsection will be met;

9. The staff director may place conditions in the permit concerning times, methods and locations of burning in order to prevent air pollution, nuisance conditions or safety hazards; and

10. The permit may be revoked if the owner or operator fails to comply with the provisions of this subsection or any conditions of the permit, or if a permit issued by the Solid Waste Management Program as specified in paragraph (4)(B)1. is revoked or voided.

(C) This rule shall not apply to the following, except as noted in subsection (4)(D):

1. Burning of household refuse on a residential premises having not more than four (4) dwelling units, provided that the refuse originates on the same premises and excludes tires;

2. Untreated wood waste materials resulting from wood processing facilities in existence as of March 25, 1976, and which do not relocate to a new site and producing less than eight thousand (8,000) board feet or equivalent per day may be open burned if at least two hundred (200) yards from the nearest occupied structure. Untreated wood waste materials resulting from wood processing plants which relocate or from new wood processing facilities not in existence as of September 18, 1970, and producing less than eight thousand (8,000) board feet, or equivalent per day, may be open burned if at least one (1) mile outside the city limits of any incorporated area or municipality and at least two hundred (200) yards from the nearest occupied structure;

3. Open burning of tree trunks, tree limbs and vegetation from land clearing operations, commercial tree trimming and municipal utility tree trimming operations when

burning takes place outside the city limits of any incorporated area or municipality and at a distance equal to or greater than two hundred (200) yards from the nearest occupied structure. Commercial tree trimming operations and municipal utility tree trimming operations shall submit a written request to the staff director for an annually renewable open burning permit. The request shall describe the general size, condition, and age of the tree trunks and tree limbs to be open burned. The permit, if issued, shall outline any restrictions and/or conditions placed on the open burning and circumstances for permit revocation or nonrenewal;

4. Fires set on cropland in connection with agricultural or forestry operations related to the growing or harvesting of crops.

5. Fires set for the purpose of training fire fighters and industrial employees in fire fighting methods provided that 1) the training is conducted in strict accordance with National Fire Protection Association NFPA 1403, *Standard on Live Fire Training Evolutions in Structures*, for fire fighters and NFPA 600 for industrial employees, 2) asbestos-containing products or materials or petroleum-based products or materials such as asphalt shingles and floor or ceiling tiles are removed prior to fire training, 3) no tires are burned, and 4) the fire is completely extinguished at the end of the training session. The staff director shall be notified in writing a minimum of one (1) week prior to the fire training. In the case of a local fire department accepting buildings for purposes of fire training, it is the responsibility of that fire department to assure all asbestos-containing products or materials, carpeting, and petroleum-based products or materials such as asphalt shingles, linoleum, and floor or ceiling tiles are removed prior to fire training (this provision is not intended to supersede the liability in the NESHAP, 40 CFR part 61, subpart M 61.145(c)(10));

6. Camp fires and other fires used solely for recreational purposes, for ceremonial occasions or for outdoor noncommercial preparation of food;

7. Prescribed burning for natural resource management purposes limited to authorized agencies; or

8. Fires set for the purpose of protecting human health or preventing environmental damage in conjunction with environmental emergency response activities under the direction of the department's environmental emergency response personnel and approved by the staff director.

(D) Nothing in this rule may be construed to permit open burning which causes or constitutes a public health hazard, nuisance, or a



hazard to vehicular or air traffic, nor which violates any other rule or statute.

*AUTHORITY:* section 643.050, RSMo Supp. 1997.\* Original rule filed Sept. 8, 1970, effective Sept. 18, 1970. Amended: Filed Jan. 31, 1972, effective Feb. 10, 1972. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978. Amended: Filed Nov. 9, 1983, effective April 12, 1984. Amended: Filed Jan. 2, 1998, effective Aug. 30, 1998.

\*Original authority 1965, amended 1972, 1992.

**10 CSR 10-3.040 Incinerators**  
(Rescinded December 9, 1991)

*AUTHORITY:* section 203.050, RSMo 1986. Original rule filed Sept. 8, 1970, effective Sept. 18, 1970. Amended: Filed Jan. 31, 1972, effective Feb. 10, 1972. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978. Amended: Filed Dec. 15, 1982, effective May 12, 1983. Amended: Filed Oct. 13, 1983, effective March 12, 1984. Rescinded: Filed May 20, 1991, effective Dec. 9, 1991.

**10 CSR 10-3.050 Restriction of Emission of Particulate Matter From Industrial Processes**

*PURPOSE:* This rule restricts the emission of particulate matter in the source gas of an operation or activity except where 10 CSR 10-3.060 would be applied.

*PUBLISHER'S NOTE:* The publication of the full text of the material that the adopting agency has incorporated by reference in this rule would be unduly cumbersome or expensive. Therefore, the full text of that material will be made available to any interested person at both the Office of the Secretary of State and the office of the adopting agency, pursuant to section 536.031.4, RSMo. Such material will be provided at the cost established by state law.

(1) Application. This rule shall apply throughout Missouri except in the City of St. Louis and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene Counties.

(2) Definitions of terms specified in this rule may be found in 10 CSR 10-6.020.

(3) General Provisions.

(A) This rule applies to any operation, process or activity except the burning of fuel for indirect heating in which the products of combustion do not come into direct contact with process materials and except the burning of refuse and except the processing of salvageable material by burning.

(B) Process weight means the total weight of all materials introduced into a source operation, including solid fuels, but excluding liquids and gases used solely as fuels and excluding air introduced for purposes of combustion. Process weight rate means a rate established as follows:

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

2. For cyclical or batch source operations, 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 period; or

3. Where the nature of any process or operation or the design of any equipment permits more than one (1) interpretation of this section, that interpretation which results in the minimum value for allowable emission shall apply.

(C) The amount of particulate matter emitted shall be determined as specified in 10 CSR 10-6.030(5). Any other method which is in accordance with good professional practice may be used with the consent of the staff director.

(4) Emission Limitations.

(A) Except as provided for in subsection (4)(B) and section (5) of this rule, no person shall cause, suffer, allow or permit the emission of particulate matter in any one (1) hour from any source in excess of the amount shown in Table I for the process weight allocated to the source.

**Table I**

Process	Weight Rate	Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr
Up to 2,000	Up to 1.00	Up to 4.10
2,500	1.25	4.76
3,000	1.50	5.38
3,500	1.75	5.96
4,000	2.00	6.52
5,000	2.50	7.58
6,000	3.00	8.56
7,000	3.50	9.49

Process	Weight Rate	Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr
Up to 8,000	Up to 4.00	Up to 10.4
9,000	4.50	11.2
10,000	5.00	12.0
12,000	6.00	13.6
16,000	8.00	16.5
18,000	9.00	17.9
20,000	10.00	19.2
30,000	15.00	25.2
40,000	20.00	30.5
50,000	25.00	35.4
60,000	30.00	40.0
70,000	35.00	41.3
80,000	40.00	42.5
90,000	45.00	43.6
100,000	50.00	44.6
120,000	60.00	46.3
140,000	70.00	47.8
160,000	80.00	49.0
200,000	100.00	51.2
1,000,000	500.00	69.0
2,000,000	1,000.00	77.6
6,000,000	3,000.00	92.7

Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation  $E=4.10P^{0.67}$  and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation—

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

where

E = rate of emission in lb/hr; and  
P = process weight rate in tons/hr.

(B) The limitations established by subsection (4)(A) of this rule shall not require the reduction of particulate matter concentration, based on the source gas volume, below the concentration specified in Table II for that volume; provided, that, for the purposes of subsection (4)(B), the person responsible for the emission may elect to substitute a volume determined according to the provisions of subsection (4)(C) of this rule and; provided further that the burden of showing the source gas volume or other volume substituted, including all the factors which determine the volume and the methods of determining and computing the volume, shall be on the person seeking to come within the provisions of this rule.

**Table II**

Source Gas Volume, Standard Cubic Foot Per Minute	Concentration, Grain Per Standard Cubic Foot
7,000 or less	0.100
8,000	0.096

Table II

Source Gas Volume, Standard Cubic Foot Per Minute	Concentration, Grain Per Standard Cubic Foot
9,000	0.092
10,000	0.089
20,000	0.071
30,000	0.062
40,000	0.057
50,000	0.053
60,000	0.050
80,000	0.045
100,000	0.042
120,000	0.040
140,000	0.038
160,000	0.036
180,000	0.035
200,000	0.034
300,000	0.030
400,000	0.027
500,000	0.025
600,000	0.024
800,000	0.021
1,000,000 or more	0.020

(C) Any volume of gases passing through and leaving an air pollution abatement operation may be substituted for the source gas volume of the source operation served by the air pollution abatement operation for the purposes of subsection (4)(B) of this rule; provided, the air pollution abatement operation emits no more than forty percent (40%) of the weight of particulate matter entering; and provided further that substituted volume shall be corrected to standard conditions and to a moisture content no greater than that of any gas stream entering the air pollution abatement operation.

(D) Notwithstanding the provisions of subsections (4)(A) and (B) of this rule, no person may cause, allow or permit the emission of particulate matter from any source in a concentration in excess of 0.30 grain per standard cubic foot of exhaust gas.

(5) Exceptions.

(A) The provisions of subsections (4)(A)–(D) of this rule shall not apply to existing grey iron jobbing cupolas. For purposes of this rule, a jobbing cupola is defined as a cupola which has a single melting cycle operated no more than ten (10) hours in any consecutive twenty-four (24) hours and no more than fifty (50) hours in any consecutive seven (7) days.

1. All existing grey iron jobbing cupolas shall be equipped with gas cleaning devices and so operated as to remove not less than eighty-five percent (85%) by weight of all the particulate matter in the cupola discharge gases or release not more than 0.4 grain of particulate matter per standard cubic foot of discharge gas, whichever is more stringent.

2. All gases, vapors and gas entrained effluents from those cupolas shall be incinerated at a temperature not less than twelve hundred degrees Fahrenheit (1200°F) for a period of not less than 0.3 seconds.

(B) This rule shall not apply to the emissions from the following:

1. Cotton gins;
2. The grinding, crushing and classification operations at a rock quarry;
3. The receiving and shipping of whole grain from or into a railroad or truck transportation source at a grain elevator; or
4. The pyrolysis of wood for the production of charcoal in batch-type charcoal kilns (Emissions from batch-type charcoal kilns shall comply with the requirements of 10 CSR 10-6.330 Restriction of Emissions From Batch-Type Charcoal Kilns).

(6) Time Schedule for Compliance. Except as otherwise specified, compliance with the provisions of this rule shall be according to the following time schedule:

(A) All new installations shall comply when operation begins;

(B) All existing installations not in compliance as of the effective date of this rule (April 3, 1971) shall be in compliance within six (6) months of the effective date (September 3, 1971) unless the owner or person responsible for the operation of the installation shall have submitted to the staff director in a form and manner satisfactory to him/her, a program and schedule for achieving compliance, program and schedule to contain a date on or before which full compliance will be attained and other information as the staff director may require. If approved by the staff director, that date will be the date on which the person shall comply; and

(C) The staff director may require persons submitting the program to submit subsequent periodic reports on progress in achieving compliance.

*AUTHORITY: section 643.050, RSMo Supp. 1997.\* Original rule filed March 24, 1971, effective April 3, 1971. Amended: Filed Jan. 31, 1972, effective Feb. 10, 1972. Amended: Filed June 30, 1975, effective July 10, 1975. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978. Amended: Filed May 12, 1978, effective Oct. 11, 1978. Amended: Filed*

*March 15, 1979, effective Nov. 11, 1979. Amended: Filed Oct. 11, 1983, effective March 12, 1984. Amended: Filed June 15, 1998, effective Jan. 30, 1999.*

*\*Original authority 1965, amended 1972, 1992, 1993, 1995.*

**10 CSR 10-3.060 Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating**

*PURPOSE: This rule restricts the emission of particulate matter from fuel burning equipment used for indirect heating except where 10 CSR 10-6.070 would be applied.*

(1) Application. This rule shall apply throughout Missouri except in the City of St. Louis and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene Counties.

(2) Definitions of terms specified in this rule may be found in 10 CSR 10-6.020.

(3) General Provisions.

(A) This rule applies to installations in which fuel is burned for the primary purpose of producing steam, hot water or hot air or other indirect heating of liquids, gases or solids and in the course of doing so, the products of combustion do not come into direct contact with process materials. Fuels include those such as coal, coke, lignite, coke breeze, gas, fuel oil and wood, but do not include refuse. 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) The heat content of solid fuels shall be determined as specified in 10 CSR 10-6.040(2). The heat content of liquid hydrocarbon fuels shall be determined as specified in 10 CSR 10-6.040(3).

(C) For purposes of this rule, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack(s). The heat input value used shall be the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater, except in the case of boilers of ten (10) million British Thermal Units (BTU) or less the heat input shall be determined by the higher heating value (HHV) of the fuel used at maximum operating conditions. The total heat input of all fuel burning units at a plant or on a premises shall

be used for determining the maximum allowable amount of particulate matter which may be emitted.

(D) The amount of particulate matter emitted shall be determined as specified in 10 CSR 10-6.030(5). Any other method which is in accordance with good professional practice may be used with the consent of the staff director.

(E) This rule shall not apply to indirect heating sources subject to the provisions of 10 CSR 10-6.070.

(F) Indirect heating sources requiring permits under 10 CSR 10-6.060 that in turn may require particular air pollution control measures to meet more stringent emission limitations than in this rule shall meet the requirements of 10 CSR 10-6.060 Permits Required.

#### (4) Emission Limitations for Existing Installations.

(A) No person may cause, allow or permit the emission of particulate matter from existing installations in excess of that specified in the following schedule:

1. If the equipment has a capacity rating of ten (10) million BTU or less, 0.60 pounds for each million BTU per hour input; or

2. If the equipment has a capacity rating of ten thousand (10,000) million BTU or more, 0.18 pounds for each million BTU per hour input.

(B) The amount of particulate matter which may be emitted from fuel burning equipment having an intermediate capacity rating between ten (10) million and ten thousand (10,000) million BTU shall be determined by use of the following equation:

$$E = 0.90(Q)^{-0.174}$$

where

E = the maximum allowable particulate emission rate in pounds per million BTU of heat input, rounded off to two (2) decimal places; and

Q = the installation heat input in millions of BTU per hour.

#### (5) Emission Limitation for New Installations.

(A) After April 3, 1971 no person may cause, allow or permit the emission of particulate matter in excess of that specified in the following schedule:

1. If the equipment has a capacity rating of ten (10) million BTU or less, 0.60 pounds for each million BTU per hour input; or

2. If the equipment has a capacity rating of two thousand (2000) million BTU or more, 0.10 pounds for each million BTU per hour input.

(B) The amount of particulate matter which may be emitted from fuel burning equipment having an intermediate capacity rating between ten (10) million and two thousand (2000) million BTU shall be determined by use of the following equation:

$$E = 1.31(Q)^{-0.338}$$

where

E = the maximum allowable particulate emission rate in pounds per million BTU of heat input, rounded off to two (2) decimal places; and

Q = the installation heat input in millions of BTU per hour.

(6) Compliance Schedule for Existing Sources. Existing burning equipment used for indirect heating shall be modified or rebuilt in compliance with section (4) in accordance with the following schedule: rated capacity—ten thousand (10,000) million or greater BTU heat input per hour; latest date for compliance; January 1, 1972; and rated capacity—ten (10) million to nine thousand nine hundred ninety-nine (9,999) million BTU heat input per hour; latest date for compliance, January 1, 1973.

(7) Exemptions. This rule shall not apply to existing boilers with a capacity of ten (10) million BTU per hour or less heat input.

*AUTHORITY: section 643.050, RSMo 1986.\* Original rule filed March 24, 1971, effective April 3, 1971. Amended: Filed Jan. 31, 1972, effective Feb. 10, 1972. Amended: Filed June 30, 1975, effective July 10, 1975. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978. Amended: Filed March 15, 1979, effective Nov. 11, 1979. Amended: Filed Oct. 13, 1983, effective March 12, 1984. Amended: Filed March 14, 1984, effective Sept. 14, 1984.*

*\*Original authority 1965, amended 1972, 1992.*

#### 10 CSR 10-3.070 Restriction of Particulate Matter From Becoming Airborne (Rescinded September 28, 1990)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed July 13, 1971, effective July 23, 1971. Amended: Filed Jan. 31, 1972, effective Feb. 10, 1972. Amended: Filed June 30, 1975, effective July 10, 1975. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978. Amended: Filed May 11, 1984, effective Oct. 11, 1984. Rescinded: Filed March 5, 1990, effective Sept. 28, 1990.*

#### 10 CSR 10-3.080 Restriction of Emission of Visible Air Contaminants

*PURPOSE: This rule specifies the maximum allowable shade or opacity of visible air contaminant emissions and requires the use of opacity monitoring devices on certain air contaminant sources.*

*PUBLISHER'S NOTE: The publication of the full text of the material that the adopting agency has incorporated by reference in this rule would be unduly cumbersome or expensive. Therefore, the full text of that material will be made available to any interested person at both the Office of the Secretary of State and the office of the adopting agency, pursuant to section 536.031.4, RSMo. Such material will be provided at the cost established by state law.*

(1) Application. This rule shall apply throughout Missouri except in the City of St. Louis and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene Counties.

(2) Definitions of terms specified in this rule may be found in 10 CSR 10-6.020.

(3) Restrictions Applicable to Existing Installations. No person may discharge into the ambient air from any single existing source of emission whatsoever any air contaminant—

(A) Of a shade or density equal to or darker than that designated as No. 2 on the Ringlemann Chart; or

(B) Of an opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 2 on the Ringlemann Chart.

(4) Restrictions Applicable to New Installations. No person may discharge into the ambient air from any single new source of emission whatsoever, any air contaminant—

(A) Of a shade or density equal to or darker than that designated as No. 1 on the Ringlemann Chart; or

(B) Of an opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 1 on the Ringlemann Chart.

(5) Exceptions.

(A) A person may discharge into the ambient air from any single source of emission for a period(s) aggregating no more than six (6) minutes in any sixty (60) minutes air contaminants—

. Of a shade or density not equal to nor darker than No. 3 on the Ringlemann Chart; or

2. Of an opacity as to obscure an observer's view to a degree not equal to nor greater than does smoke designated as No. 3 on the Ringlemann Chart.

(B) For the purpose of subsection (5)(A), the staff director, for a specific source and for special conditions, may approve any other schedule.

(C) Where the presence of uncombined water is the only reason for failure of an emission to meet the requirements of section (3) or (4) of this rule, those sections shall not apply.

(D) The provisions of section (3) of this rule shall not apply to the following:

1. Transfer of molten metals;
2. Emissions from transfer ladles; or
3. Existing grey iron cupola furnaces.

(E) This rule shall not apply to the following:

1. Internal combustion engines;
2. Wood burning stoves or fireplaces in dwelling;
3. Fires used for recreational purposes or fires used for the noncommercial preparation of food by barbecuing;
4. Fires used solely for the purpose of training firemen;
5. Smoke generating devices when a required permit or a written determination that a permit is not required has been issued or written. A smoke generating device is a specialized piece of equipment which is not an integral part of a commercial, industrial or manufacturing process and whose sole purpose is the creation and dispersion of fine solid or liquid particles in a gaseous medium;
6. Incinerators used to burn refuse;
7. The pyrolysis of wood for the production of charcoal in batch-type charcoal kilns (Emissions from batch-type charcoal kilns shall comply with the requirements of 10 CSR 10-6.330 Restriction of Emissions From Batch-Type Charcoal Kilns); and
8. Open burning of refuse.

(6) Method of Measurement.

(A) The Ringlemann Chart shall be the standard in grading the shade or opacity of visible air contaminant emissions. The staff director, with the consent of the source operator, may employ any other means of measurement which gives comparable results or results of greater accuracy.

(B) The installation of opacity monitoring devices shall be required on fluid bed catalytic cracking unit catalyst regenerators, coal-fired steam generating units with greater than

two hundred fifty (250) million British Thermal Units (BTU)/hour heat input and portland cement calcining kiln operations.

(C) Minimum Specifications.

1. Performance specifications. Continuous monitoring systems for monitoring opacity shall comply with performance specification 1 as set forth in 40 CFR Part 60, Appendix B, "Performance Specification 1."

2. Cycling time. Cycling times include the total time a monitoring system requires to sample, analyze and record an emission measurement. Continuous monitoring systems for measuring opacity shall complete a minimum of one (1) cycle of operation (sampling, analyzing and data recording) for each successive ten (10)-second period.

3. Monitor location. All continuous monitoring systems or monitoring devices shall be installed that the measurements obtained are representative measurements of emissions occurring within the discharged opacity profile.

4. Combined effluents. When the effluents from two (2) or more affected facilities of similar design and operating characteristics are combined before being released to the atmosphere, opacity monitoring systems may be installed on the combined effluent.

5. Zero and drift. The owners or operators of all continuous monitoring systems installed in accordance with the requirements of this rule shall record the zero and drift at least once daily unless the manufacturer has recommended adjustments at shorter intervals, at which case those recommendations shall be followed and shall adjust the zero and span whenever the twenty-four (24)-hour zero drift or twenty-four (24)-hour calibration drift limits in 40 CFR Part 60, Appendix B, "Performance Specification 1" are exceeded or whenever the twenty-four (24)-hour zero drift or twenty-four (24)-hour calibration drift exceed ten percent (10%) of the emission standard.

6. Span. Instrument span shall be approximately two hundred percent (200%) of the expected instrument data display output corresponding to the emission standard for the source.

(D) Minimum Data Requirements.

1. Written reports required. Owners or operators of facilities required to install continuous monitoring systems shall submit a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions, if known, to the staff director. All quarterly reports shall be post-marked by the thirtieth day following the end of each calendar quarter.

2. Data summary. The data summary shall consist of the magnitude in actual per-

cent opacity of all six (6)-minute averages of opacity greater than the opacity emission limitation. Average of values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of twenty-four (24) equally spaced instantaneous opacity measurements per six (6)-minute period. A one (1)-hour period means any sixty (60)-minute period commencing on the hour and a six (6)-minute period means any one (1) of ten (10) equal parts of a one (1)-hour period.

3. Inoperative periods. The date and time identifying each period during which the continuous monitoring system was inoperative (except for zero and span checks) and the nature of system repairs or adjustments shall be reported.

4. No excess emissions. When no excess emissions have occurred during the reporting period and the continuous monitoring system has not been inoperative, repaired or adjusted, that information shall be included in the report.

5. Files to be maintained. Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard, for a minimum of two (2) years from the date of collection of data or submission of summaries.

(E) Special Considerations.

1. Alternatives. Alternative monitoring requirements, system locations and procedures for performing calibration checks which do not meet the requirements of this rule, but adequately demonstrate a definite and consistent relationship with the intent of this rule, may be approved by the staff director.

2. Exceptions.

A. Coal-fired steam generating units that have an annual boiler capacity factor of thirty percent (30%) or less as currently defined by the Federal Power Commission shall be exempt from these monitoring requirements.

B. Coal-fired boilers and portland cement calcining kilns scheduled for retirement prior to January 1, 1981, shall be exempt from these monitoring requirements subject to receipt and approval of an affidavit by the staff director.

C. Coal-fired boilers which utilize flue gas desulfurization equipment shall be exempt from these monitoring requirements.

D. Portland cement calcining kilns whose particulate emissions are controlled with bag-houses which emit from multiple



stacks or vents shall be exempt from these opacity monitoring requirements.

(F) Compliance.

1. Owners or operators of affected facilities shall submit a plan for meeting the requirements of this rule to the staff director within sixty (60) days (June 1, 1971) of its effective date (April 13, 1971).

2. Notwithstanding compliance with any other provision of this rule, no owner or operator of a facility affected by this rule will be deemed to be in compliance until the compliance plan receives the written approval of the staff director.

3. Effective dates of compliance. Facilities affected by this rule shall comply within twelve (12) months (April 1, 1972) of its effective date (April 3, 1971).

(7) Time Schedule for Compliance.

(A) Except as otherwise specified, compliance with the provisions of this rule shall be according to the following time schedule:

1. All new installations shall comply when operation begins;

2. All existing installations not in compliance as of the effective date (April 3, 1971) of this rule shall be in compliance within six (6) months (September 3, 1971) unless the owner or person responsible for the operation of the installation shall have submitted to the staff director in a form and manner satisfactory to him/her, a program and schedule for achieving compliance, this program and schedule to contain a date on or before which full compliance will be attained and other information as the staff director may require. If approved by the staff director, that date will be the date on which the person shall comply; and

3. The staff director may require persons submitting the program to submit periodic subsequent reports on progress in achieving compliance.

*AUTHORITY: section 643.050, RSMo Supp. 1997.\* Original rule filed March 24, 1971, effective April 3, 1971. Amended: Filed Jan. 31, 1972, effective Feb. 10, 1972. Amended: Filed Jan. 14, 1977, effective July 11, 1977. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978. Amended: Filed March 15, 1979, effective Nov. 11, 1979. Emergency amendment filed June 15, 1995, effective June 25, 1995, expired Oct. 22, 1995. Amended: Filed Sept. 14, 1995, effective May 30, 1996. Amended: Filed June 15, 1998, effective Jan. 30, 1999.*

*\*Original authority 1965, amended 1972, 1992, 1993, 1995.*

**10 CSR 10-3.090 Restriction of Emission of Odors**

*PURPOSE: This rule restricts the emission of excessive odorous matter.*

(1) Application. This rule shall apply throughout Missouri except in the City of St. Louis and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene Counties.

(2) Restriction of Emission of Odors. No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one (1) volume of odorous air is diluted with seven (7) volumes of odor-free air for two (2) separate trials not less than fifteen (15) minutes apart within the period of one (1) hour.

(3) Exceptions.

(A) The provisions of section (2) of this rule shall not apply to the emission of odorous matter from the pyrolysis of wood in the production of charcoal in a Missouri-type charcoal kiln.

(B) The provisions of section (2) of this rule shall not apply to the emission of odorous matter from the raising and harvesting of crops nor from the feeding, breeding and management of livestock or domestic animals or fowl except as described in section (5) of this rule.

(4) Method of Measurement. Measurements may be made with a scentometer as manufactured by the Barnebey & Sutcliffe Corporation or by a similar technique that will give equivalent results, as agreed to at the time by the source operator and the staff director.

(5) Control of Odors from Class 1A Concentrated Animal Feeding Operations.

(A) Notwithstanding any provision in any other regulation to the contrary, all Class 1A concentrated animal feeding operations as defined in section 640.703(3), RSMo, operating on or after January 1, 1999, shall prepare and implement an odor control plan describing measures to be used to control odor emissions. The plan shall identify all sources of odor emissions and describe the measures to be used to reduce the overall odor emissions associated with the facility operations. The schedule for these activities shall be as follows:

1. Not later than July 1, 2000, an odor control plan shall be submitted to the Air Pollution Control Program (APCP). The odor control plan shall contain the following:

A. A listing of all potentially innovative and proven odor control options for the facility. Odor control options may include odor reductions achieved through: odor prevention, odor capture and treatment, odor dispersion, add-on control devices, modifications to feed-stock or waste handling practices, or process changes;

B. A detailed discussion of feasible odor control options for the facility. The discussion shall include options determined by the facility to be infeasible. Determination of infeasibility should be well documented and based on physical, chemical and engineering principles demonstrating that technical difficulties would preclude the success of the control option;

C. A ranking of feasible odor control options from most to least effective. Ranking factors shall include odor control effectiveness, expected odor reduction, energy impacts and economic impacts;

D. An evaluation of the most effective odor control options. Energy, environmental and economic impacts shall be evaluated on a case-by-case basis;

E. Description of the odor control options to be implemented by the facility;

F. A schedule for implementation. The schedule shall establish interim milestones in implementing the odor control plan prior to the implementation deadline; and

G. An odor monitoring plan;

2. The APCP, in consultation with the Water Pollution Control Program, shall review and approve or disapprove the odor control plan.

A. After the APCP receives an odor control plan they shall perform a completeness review. Within thirty (30) days of receipt, the APCP shall notify the facility if the plan contains all the elements of a complete odor control plan. If found incomplete, the APCP shall give the facility a written explanation of the plan's deficiencies.

B. Within sixty (60) days after determining an odor control plan submittal is deemed complete, the APCP shall approve or disapprove the plan. During this sixty (60)-day technical review period, the APCP may request additional information needed for review. If the plan is disapproved, the APCP shall give the owner or operator a written evaluation explaining the reason(s) for disapproval;

3. Not later than March 1, 2001, the facility shall submit to the APCP a written progress report on implementing the odor control plan. The progress report shall, at a minimum, compare the actual schedule of implementation to that approved in the odor control plan;



4. Not later than January 1, 2002, implementation of the odor control plan shall be complete and controls shall be operational.

(B) Notwithstanding any provision in any other regulation to the contrary, all new Class 1A concentrated animal feeding operations, prior to commencement of construction, shall obtain approval from the APCP of an odor control plan as described above.

(C) After January 1, 2002, no Class 1A concentrated animal feeding operation may cause, permit or allow the emission of odorous matter—

1. In concentrations and frequencies or for durations that the odor can be perceived when one (1) volume of odorous air is diluted with five and four-tenths (5.4) volumes of odor-free air for two (2) separate trials not less than fifteen (15) minutes apart within the period of one (1) hour. This odor evaluation shall be taken at a site not at the installation and will be used as a screening evaluation. A positive screening evaluation for odor shall require an odor sample to be taken and evaluated by olfactometry as described in paragraph (5)(C)2. of this rule. These measurements may be made with a Scentometer as manufactured by the Barnebey & Sutcliffe Corporation or by a similar technique that will give equivalent results, as agreed to at the time by the source operator and the staff director; and

2. When one (1) of the following conditions is met:

A. In concentrations with a best estimate detection threshold, represented as  $Z_{OL} \geq 7$ , as determined using American Society for Testing and Materials Standard E 679-91 (Reapproved 1997) at an olfactometer flow rate of twenty (20) liters per minute; or

B. At intensities greater than that of two hundred twenty-five (225) parts per million of n-butanol odorant in air, which serves as the reference scale, as determined by an olfactometry panel evaluation of a sample of the odorous air.

(D) The director may require an ambient air monitoring quality assurance project plan. This plan shall be approved by the director and include or reference the documented and approved standard operating procedures for monitoring, field collection and analysis for any Class 1A CAFO that exceeds the odor emission limits found in paragraph (5)(C)2. of this rule following implementation of its odor control plan. Monitoring shall be done for pollutants or gases reasonably expected to be emitted by the CAFO and implemented on a schedule as agreed to by the source operator and the staff director. Monitoring shall begin and continue as approved in the plan

and shall not exceed eight (8) quarters of complete data unless subsequent violations are determined.

*AUTHORITY: section 643.050, RSMo Supp. 1997.\* Original rule filed July 13, 1971, effective July 23, 1971. Amended: Filed Jan. 31, 1972, effective Feb. 10, 1972. Amended: Filed Aug. 15, 1983, effective Jan. 13, 1984. Amended: Filed Nov. 2, 1998, effective July 30, 1999.*

*\*Original authority 1965, amended 1972, 1992, 1993, 1995.*

**10 CSR 10-3.100 Restriction of Emission of Sulfur Compounds**

(Rescinded July 30, 1997)

*AUTHORITY: section 643.050, RSMo 1986.\* Original rule filed March 24, 1971, effective April 3, 1971. Amended: Filed Jan. 31, 1972, effective Feb. 10, 1972. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978. Amended: Filed Oct. 14, 1977, effective March 11, 1978. Amended: Filed Aug. 11, 1978, effective April 12, 1979. Amended: Filed July 1, 1986, effective Nov. 28, 1986. Rescinded: Filed Dec. 13, 1996, effective July 30, 1997.*

**10 CSR 10-3.110 Rules for Controlling Emissions During Periods of High Air Pollution Potential**

(Rescinded October 11, 1984)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed Jan. 31, 1972, effective Feb. 10, 1972. Rescinded: Filed May 11, 1984, effective Oct. 11, 1984.*

*Op. Atty. Gen. No. 331, Shell (11-15-71). The Missouri Air Conservation Commission has the authority under Chapter 203, RSMo 1969 to abate pollutant emissions on an emergency basis comparable to that available under 42 U.S.C.A. Section 1857d(k).*

**10 CSR 10-3.120 Public Availability of Emission Data**

(Rescinded November 12, 1984)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed Aug. 25, 1972, effective Sept. 4, 1972. Rescinded: Filed June 13, 1984, effective Nov. 12, 1984.*

*Op. Atty. Gen. No. 331, Shell (11-15-71). The Missouri Air Conservation Commission does not have any specific authority to*

*require the installation of emission monitoring devices, but does have the authority to require reports from sources of air pollution relating to rate, period of emission and composition of effluent and to make such information available to the public, unless any such information is "confidential" as defined by section 203.050.4., RSMo 1969.*

**10 CSR 10-3.130 Submission of Emission Information**

(Rescinded November 12, 1984)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed Aug. 25, 1972, effective Sept. 4, 1972. Rescinded: Filed June 13, 1984, effective Nov. 12, 1984.*

*Op. Atty. Gen. No. 331 Shell (11-15-71). The Missouri Air Conservation Commission has the authority under Chapter 203, RSMo 1969 necessary to inspect, conduct tests and obtain information, including the authority to require recordkeeping, to determine compliance with emission control rules.*

**10 CSR 10-3.140 New Source Performance Regulations**

(Rescinded April 11, 1980)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed Dec. 19, 1975, effective Dec. 29, 1975. Rescinded: Filed Dec. 10, 1979, effective April 11, 1980.*

*Op. Atty. Gen. No. 331, Shell (11-15-71). The Missouri Air Conservation Commission has the authority under Chapter 203, RSMo 1969 to adopt emission control rules, including limitations on the content of fuels, which will attain and maintain national air quality standards, if the state standards are the same or more stringent.*

**10 CSR 10-3.150 Restriction of Emissions of Sulfur Compounds From Indirect Heating Sources**

(Rescinded July 30, 1997)

*AUTHORITY: section 643.050, RSMo 1986.\* Original rule filed Oct. 14, 1977, effective March 11, 1978. Rescinded: Filed Dec. 13, 1996, effective July 30, 1997.*

**10 CSR 10-3.160 Restriction of Emission of Fluorides From Diammonium Phosphate Fertilizer Production**

*PURPOSE: This rule establishes the maximum allowable rate of total fluoride emissions*

from any diammonium phosphate fertilizer production facility in the outstate Missouri area.

*PUBLISHER'S NOTE: The publication of the full text of the material that the adopting agency has incorporated by reference in this rule would be unduly cumbersome or expensive. Therefore, the full text of that material will be made available to any interested person at both the Office of the Secretary of State and the office of the adopting agency, pursuant to section 536.031.4, RSMo. Such material will be provided at the cost established by state law.*

(1) Application. This rule shall apply throughout Missouri except in the City of St. Louis and St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte and Greene Counties.

(2) Maximum Allowable Emission of Total Fluoride From the Production of Diammonium Phosphate Fertilizer. The maximum emission of total fluoride from the production of diammonium phosphate fertilizer shall not exceed 0.030 grams per kilogram of phosphorous pentoxide input to the process (0.06 lb/ton).

(3) Time Schedules for Compliance. All sources subject to subsection (2)(A) of this rule shall be in compliance within eighteen (18) months (June 11, 1980) of the effective date of this rule December 11, 1978.

(4) Monitoring of Operations.

(A) Any facility subject to this rule shall install, calibrate, maintain and operate a monitoring device which can be used to determine the mass flow of phosphorous-bearing feed material to the diammonium phosphate process and a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. These devices shall have an accuracy of plus or minus five percent ( $\pm 5\%$ ) over their operating range.

(B) Any facility subject to this rule shall maintain a daily record of equivalent phosphorous pentoxide feed to the diammonium phosphate process by determining the total mass rate in metric ton/hour of phosphorous-bearing feed using a monitoring device for measuring mass flow rate which meets the requirements of subsection (4)(A) of this rule and by following the procedure described in subsection (5)(A).

(C) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emis-

sions can be accurately determined by applicable test methods and procedures.

*\*Original authority 1965, amended 1972, 1992.*

(5) Determination of Equivalent Phosphorous Pentoxide Feed and Total Fluoride Emissions.

(A) Equivalent phosphorous pentoxide feed at the affected facility shall be determined as follows:

1. Determine the total mass rate in metric ton/hour of phosphorous-bearing feed using a flow monitoring device meeting the requirements of subsection (4)(A);

2. Calculate the equivalent phosphorous pentoxide feed by multiplying the percentage phosphorous pentoxide content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9) times the total mass rate of phosphorous-bearing feed. AOAC Method 9 is published in the *Official Methods of Analysis of the Association of Official Analytical Chemists*, 11th edition, 1970, pp. 11 and 12. Other methods may be approved by the director of the Department of Natural Resources.

(B) Determination of Total Fluoride Emissions. For each run, total fluoride emissions expressed as g/metric tons of equivalent phosphorous pentoxide feed shall be determined using the following equation:

$$E = \frac{(C_s Q_s) 10^{-3}}{M_{P_2O_5}}$$

Where:

E = emissions of total fluoride in g/metric ton of equivalent phosphorous pentoxide feed;

$C_s$  = concentration of total fluorides in mg/dscm as determined by 10 CSR 10-6.030(13);

$Q_s$  = volumetric flow rate of the effluent gas stream in dscm/hour as determined by 10 CSR 10-6.030(2);

$10^{-3}$  = Conversion factor for mg to g; and

$M_{P_2O_5}$  = Equivalent phosphorous pentoxide feed in metric ton/hour as determined by paragraph.

(6) Performance Testing. Any facility subject to this regulation shall have a performance test conducted on the diammonium phosphate process at the facility according to the procedure described in 10 CSR 10-6.030(13) within twenty-one (21) months after December 11, 1978 (September 11, 1980).

*AUTHORITY: section 643.050, RSMo 1986. \*Original rule filed Feb. 27, 1978, effective Dec. 11, 1978.*