

10 CSR 10-6.405 Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used For Indirect Heating

(1) Applicability.

(A) This rule applies throughout the state with additional conditions applicable to the metropolitan areas of Kansas City, Springfield, and St. Louis as found in sections (2) and (3) of this rule.

(B) 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 may include but are not limited to coal, tire derived fuel, coke, lignite, coke breeze, gas, fuel oil, biomass, and wood, but do not include refuse. When any products or byproducts of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission rate limitations shall apply.

(C) An emission unit that is subject to 10 CSR 10-6.070 and in compliance with applicable provisions; or an emission unit fueled by landfill gas, propane, natural gas, fuel oils #2 through #6 (with less than one and two-tenths percent (1.2%) sulfur), and/or other gases (with hydrogen sulfide levels less than or equal to four (4) parts per million volume as measured using ASTM D4084, or equivalent and mercury concentrations less than forty (40) micrograms per cubic meter as measured using ASTM D5954, or ASTM D6350, or equivalent) would be deemed in compliance with 10 CSR 10-6.405.

(D) The heat input from emission units in subsection (1)(C) of this rule must be included in the calculation of Q, the installation's total heat input as defined in subsections (3)(D) and (3)(E) of this rule.

(E) An installation is exempt from this rule if all of the installation's applicable units are fueled only by landfill gas, propane, natural gas, fuel oils #2 through #6 (with less than one and two-tenths percent (1.2%) sulfur), or other gases (with hydrogen sulfide levels less than or equal to four (4) parts per million volume as measured using ASTM D4084, or equivalent and mercury concentrations less than forty (40) micrograms per cubic meter as measured using ASTM D5954, or ASTM D6350, or equivalent) or any combination of these fuels.

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(2) Definitions.

(A) Existing—Any source which was in being, installed, or under construction on the date provided in the following table:

Area of State	Construction date began on or before
Kansas City Metropolitan Area	February 15, 1979*
St. Louis Metropolitan Area	February 15, 1979*
Springfield-Greene County Area	September 24, 1971
Outstate Area	February 24, 1971

*Exception: If any source subsequently is altered, repaired, or rebuilt at a cost of thirty percent (30%) or more of its replacement cost, exclusive of routine maintenance, it shall no longer be existing but shall be considered as new.

(B) New—Any source which is not an existing source, as defined in subsection (2)(A) of this rule.

(C) Definitions of certain terms specified in this rule, other than those defined in this rule section, may be found in 10 CSR 10-6.020.

(3) General Provisions.

(A) 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).

(B) 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 hourly 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 (mmBtu) or less the heat input can also 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 used for indirect heating at a plant or on a premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

(C) 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 rate limitations than in this rule shall meet the requirements of the permits issued under 10 CSR 10-6.060
Construction Permits Required.

(D) Emission Rate Limitations for Existing Indirect Heating Sources. No person may cause, allow, or permit the emission of particulate matter from existing indirect heating sources in excess of that specified in the following table:

Area of State	Heat Input (mmBtu/hour)	Rate Limits for Existing Sources (pounds/mmBtu)
Kansas City & St. Louis Metropolitan	<10	0.60
	≥10 and ≤5,000	$E=1.09Q^{-0.259}$
	>5,000	0.12
Springfield-Greene County & Outstate Missouri	≤10	0.60
	>10 and <10,000	$E=0.90Q^{-0.174}$
	≥10,000	0.18

Where:

E = the maximum allowable particulate emission rate limit for existing sources in pounds per mmBtu of heat input, rounded off to two (2) decimal places; and

Q = the summation of heat input in mmBtu/hour from all affected fuel burning equipment at a source (including existing equipment, new equipment, NSPS units, and other clean units identified in subsection (1)(C) of this rule).

(E) Emission Rate Limitations for New Indirect Heating Sources. No person may cause, allow, or permit the emission of particulate matter in excess of that specified in the following table:

Area of State	Heat Input (mmBtu/hour)	Rate Limits for New Sources (pounds/mmBtu)
Kansas City & St. Louis Metropolitan	<10	0.40
	≥10 and ≤1,000	$E=0.80Q^{-0.301}$
	>1,000	0.10
Springfield-Greene County & Outstate Missouri	≤10	0.60
	>10 and <2,000	$E=1.31Q^{-0.338}$
	≥2,000	0.10

Where:

E = the maximum allowable particulate emission rate limit for new sources in pounds per mmBtu of heat input, rounded off to two (2) decimal places; and

Q = the summation of heat input in mmBtu/hour from all affected fuel burning equipment at a source (including existing equipment, new equipment, NSPS units, and other clean units identified in subsection (1)(C) of this rule).

(F) Alternate Method of Compliance.

1. Compliance with this rule also may be demonstrated if the weighted average emission rate (WAER) of two (2) or more indirect heating sources is less than or equal to the maximum allowable particulate E determined in subsection (3)(D) or (3)(E) of this rule. The WAER for the indirect heating sources to be averaged shall be calculated by the following formula:

$$\text{WAER} = \frac{\sum_{i=1}^n (Ea_i \times Q_i)}{\sum_{i=1}^n Q_i}$$

Where:

WAER = the weighted average emission rate in pounds per mmBtu;

Ea_i = the actual emission rate of the ith indirect heating source in pounds per mmBtu;

Q_i = the rated heat input of the ith indirect heating source in mmBtu per hour; and

n = the number of indirect heating sources in the average.

2. Installations demonstrating compliance with this rule in accordance with the requirements of subsection (3)(F) of this rule shall do so by making written application to the director. The application shall include the calculations performed in paragraph (3)(F)1. of this rule and all necessary information relative to making this demonstration.

3. Subsection (3)(F) of this rule only shall apply if the WAER determined by paragraph (3)(F)2. of this rule for indirect heating sources does not exceed the maximum allowable particulate E determined for that source from subsection (3)(D) or (3)(E) of this rule when using the rated heat input, Q_i , for the individual indirect heating source as if that individual indirect heating source was the only such source at the installation.

(4) Reporting and Record Keeping. All records must be kept on-site for a period of five (5) years and made available to the department upon request. The owner or operator shall maintain records of the following information for each year the unit is operated:

(A) The identification of each affected unit and the name and address of the plant where the unit is located for each unit subject to this rule;

(B) The calendar date of the record;

(C) The emission rate in pounds per mmBtu for each unit on an annual basis for those units complying with the limit in subsections (3)(D) and (3)(E) of this rule; and

(D) The emission rate in pounds per mmBtu for each facility on an annual basis for those units complying with subsection (3)(F) of this rule.

(5) Test Methods. The following hierarchy of methods shall be used to determine compliance with subsections (3)(D) and (3)(E) of this rule:

(A) Continuous Emission Monitoring System (CEMS);

(B) Stack tests, as specified in 10 CSR 10-6.030(5)(A) or (5)(B);

(C) Other EPA documents;

(D) Compliance Assurance Monitoring (CAM) Plans as found in a facility operating permit may be used to provide a reasonable assurance of compliance with subsections (3)(D) and (3)(E) of this rule;

(E) Sound engineering calculations;

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(F) Any other method, such as AP-42 (Environmental Protection Agency (EPA) *Compilation of Air Pollution Emission Factors*) or Factor Information and Retrieval System (FIRE), approved for the source by incorporation into a construction or operating permit, settlement agreement, or other federally enforceable document; or

(G) Other alternate emission estimation methods not listed in this section when pre-approval is obtained from the department and EPA before using such methods to estimate emissions.

EPA Rulemakings

CFR: 40 CFR 52.1320 (c)
FRM: 77 FR 56555 (9/13/12)
PRM: 77 FR 56591 (9/13/12)
State Submission: 10/11/11
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Description: Missouri's new rule 10 CSR 10-6.405 consolidates four previously existing Missouri area-specific rules into one state-wide standard for clarity. The consolidated rule restricts the emission of PM from fuel burning equipment used for indirect heating and provides an exemption for units that burn specific types of "clean burning" fuels and an alternative method of demonstrating compliance by averaging emissions for facilities with multiple units subject to this rule. The four rescinded rules are: 10 CSR 10-2.040; 10 CSR 10-3.060; 10 CSR 10-4.040; and 10 CSR 10-5.030.

Difference Between the State and EPA-Approved Regulation

None.