

**10 CSR 10-6.220 Restriction of Emission of Visible Air
Contaminants**

(1) Applicability. This rule applies to all sources of visible emissions, excluding water vapor, throughout the state of Missouri with the exception of the following:

- (A) Internal combustion engines;
- (B) Wood burning stoves or fireplaces used for heating;
- (C) Fires used for recreational or ceremonial purposes or fires used for the noncommercial preparation of food by barbecuing;
- (D) Fires used solely for the purpose of fire-fighter training;
- (E) Smoke generating devices when a required permit (under 10 CSR 10-6.060 or 10 CSR 10-6.065) has been issued or a written determination that a permit is not required has been obtained;
- (F) The pyrolysis of wood for the production of charcoal in batch-type charcoal kilns regulated under 10 CSR 10-6.330;
- (G) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher;
- (H) Emission units specifically exempt or regulated under 10 CSR 10-6.070;
- (I) *This subsection referring to the open burning rule, 10 CSR 10-6.045, is not SIP approved.***
- (J) Emission units regulated under 40 CFR 63 subpart DDDDD—*National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* that meet one (1) of the following criteria:
 - 1. Constructed or reconstructed after June 4, 2010;
 - 2. The unit is subject to a ten percent (10%) opacity limit as described in Table 4 of 40 CFR 63 subpart DDDDD; or
 - 3. The unit is in Table 2 of 40 CFR 63 subpart DDDDD and has a filterable particulate matter limitation of less than or equal to 4E-02 pounds per million British thermal units (lbs/MMBtu);
- (K) Fugitive emissions regulated under 10 CSR 10-6.170;

(L) Any emission unit burning only natural gas, landfill gas, propane, liquefied petroleum gas, digester gas, or refinery gas;

(M) Emission units regulated under 40 CFR 63 subpart JJJJJJ—*National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* that meet all of the following criteria:

1. Constructed or reconstructed after June 4, 2010;

2. In compliance with the 3.0E-02 lbs/MMBtu filterable particulate matter emission limit described in Table 1 of 40 CFR 63 subpart JJJJJJ or maintaining opacity to less than or equal to ten percent (10%) as described in Table 3 of 40 CFR 63 subpart JJJJJJ; and

3. Demonstrating compliance with a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS);

(N) Emission units regulated under 40 CFR 63 subpart UUUUU—*Mercury and Air Toxics Standards*, and demonstrating compliance with a particulate matter continuous emission monitoring system;

(O) Emission units that are contained within and emit only within a building space. This does not include emission units with a capture device vented outside the building space; and

(P) Emission units subject to an equivalent or more restrictive emission limit under—

1. 10 CSR 10-6.075; or

2. Any federally enforceable permit.

(2) Definitions.

(A) Batch-type charcoal kiln—Charcoal kilns that manufacture charcoal with a batch process rather than a continuous process. The batch-type charcoal kiln process typically includes loading wood, sealing the kiln, igniting the wood, and controlled burning of the wood to produce charcoal which is unloaded.

(A) (B) Capacity factor—The ratio (expressed as a percentage) of a power generating unit's actual annual electric output (expressed in MWe-hr) divided by the unit's nameplate capacity multiplied by eight thousand seven hundred sixty (8,760) hours.

(C) Capture device—A hood, enclosed room, floor sweep, or other means of collecting air pollutants into a duct.

(D) Continuous monitoring system (CMS)—A comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with this rule on a continuous basis as defined by the regulation.

(E) Continuous Opacity Monitoring System (COMS)—All equipment required to continuously measure and record the opacity of emissions within a stack or duct. COMS consists of sample interface, analyzer, and data recorder components and usually includes, at a minimum, transmissometers, transmissometer control equipment, and data transmission, acquisition, and recording equipment.

(F) Digester gas—A gas, consisting of mostly methane (CH_4) and carbon dioxide (CO_2), generated during anaerobic digestion when microorganisms break down organic materials in the absence of oxygen.

(G) Director—Director of the Missouri Department of Natural Resources, or a representative designated to carry out duties as described in 643.060, RSMo.

(H) Emission unit—any part or activity of a facility that emits or has the potential to emit any regulated air pollutant.

(I) Excess emissions—The opacity emissions which exceed the requirements of any applicable emission limit within this rule.

(J) Existing emission unit—Any emission unit in operation, installed, or under construction prior to July 11, 1977 that has not been subsequently altered, repaired, or rebuilt at a cost of fifty percent (50%) or more of its replacement cost exclusive of routine maintenance. The cost of installing equipment designed principally for the purpose of air pollution control is not to be considered a cost of altering, repairing, or rebuilding an existing emission unit.

(K) Facility—All contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

(L) Fugitive emissions—Those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

(M) Incinerator—Any article, machine, equipment, contrivance, structure, or part of a structure used to burn refuse or to process refuse material by burning other than by open burning.

(N) Internal combustion engine—Any engine in which power, produced by heat and/or pressure developed in the engine cylinder(s) by burning a mixture of fuel and air, is subsequently converted to mechanical work by means of one (1) or more pistons.

(O) Kansas City metropolitan area—The geographical area comprised of Jackson, Cass, Clay, Platte, Ray, and Buchanan counties.

(P) Landfill gas—A gaseous byproduct of landfills, consisting of mostly methane (CH₄) and carbon dioxide (CO₂), produced by microorganisms within a landfill under anaerobic conditions.

(Q) Liquefied petroleum gas—A gas consisting of propane, propylene, butane, and butylenes.

(R) Natural gas—A naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions.

(S) New emission unit—Any emission unit which is not permanently shutdown or an existing emission unit as defined in subsection (2)(I) of this rule.

(T) Opacity—The extent to which airborne material obstructs the transmission of incident light and obscures the visual background. Opacity is stated as a percentage of light obstructed and can be measured by a continuous opacity monitoring system or a trained observer. An opacity of one hundred percent (100%) represents a condition in which no light is transmitted, and the background is completely obscured.

(U) Open burning—The burning of any materials where air contaminants resulting from combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber. For purposes of this definition, a chamber shall be regarded as enclosed, when, during the time combustion takes place, only those apertures, ducts, stacks, flues, or chimneys, as are necessary to provide combustion air and to permit the escape of exhaust gases, are open.

(V) Outstate area—Any area throughout the state of Missouri except the City of St. Louis and St. Charles, St. Louis,

Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte, and Greene counties.

(W) Particulate matter—Any material, except uncombined water, that exists in a finely divided form as a liquid or solid that enters the atmosphere as a direct emission from a stack or an open source.

(X) Portland cement kiln—A system, including any solid, gaseous, or liquid fuel combustion equipment, used to calcine and fuse raw materials, including limestone and clay, to produce Portland cement clinker.

(Y) Qualified observer—An individual or device with a current certification to measure opacity using one (1) of the methods listed in section (5) of this rule.

(Z) Refinery gas—Any gas that is generated as a byproduct at a petroleum refinery or petrochemical plant and that is combusted separately or in combination with any type of gas.

(AA) Six (6)-minute period—A three-hundred-sixty (360)-consecutive-second time interval. Six (6)-minute block averages shall be utilized for COMS data per the provisions of Appendix B to 40 CFR 60, Performance Specification 1, as specified in 10 CSR 10-6.030(22).

(BB) Smoke generating device—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.

(CC) Springfield-Greene County area—The geographical area contained within Greene County.

(DD) St. Louis metropolitan area—The geographical area comprised of St. Louis, St. Charles, Jefferson, and Franklin counties and the City of St. Louis.

(EE) Visible emission—Any discharge of an air contaminant, including condensables, which reduces the transmission of light or obscures the view of an object in the background.

(3) General Provisions.

(A) Visible Emissions Limitations.

1. Maximum Visible Emissions Limitations. Unless specified otherwise in this rule, no owner or operator shall cause or permit to be discharged into the atmosphere from any emission unit, not exempted under this rule, any visible emissions greater than the limitations in the following table for any continuous six (6)-minute period as measured by the test method used to demonstrate compliance with this rule:

Area of State	Visible Emission Limitations	
	Existing Emission Units	New Emission Units
Kansas City Metropolitan Area	20%	20%
St. Louis Metropolitan Area	20%*	20%
Springfield-Greene County Area	40%	20%
Outstate Area	40%	20%

*Exception: Existing emission units in the St. Louis metropolitan area that are not incinerators and emit less than twenty-five (25) lbs/hr of particulate matter shall be limited to forty percent (40%) opacity.

2. Visible Emissions Limitations, Exceptions Allowed In One (1) Continuous Six (6)-Minute Period. The visible emissions limitations in the following table shall be allowed for one (1) continuous six (6)-minute period in any sixty (60) minutes as measured by the test method used to demonstrate compliance with this rule:

Area of State	Visible Emission Limitations	
	Existing Emission Units	New Emission Units
Kansas City Metropolitan Area	60%**	60%**
St. Louis Metropolitan Area	40%	40%
Springfield-Greene County Area	60%**	60%**
Outstate Area	60%	60%

** This exception does not apply to existing and new incinerators in the Kansas City metropolitan area and Springfield-Greene County.

(B) Failure to meet the requirements of subsection (3) (A) solely because of the presence of uncombined water is not a violation of this rule.

(C) Compliance Determination. Compliance for any emission unit to which this rule applies shall be determined from opacity

measurements taken in accordance with subsection (3)(D) or (3)(E) of this rule. If opacity measurements taken by a non-department qualified observer differ from visual measurements taken by a qualified department observer, the qualified department observer's opacity measurements shall be used to determine compliance.

(D) Coal-fired steam generating units with maximum heat input rate greater than two hundred fifty (250) million British thermal units (Btus)/hour shall install a CMS in accordance with subsection (3)(F) of this rule unless the emission unit—

1. Is exempt under section (1) of this rule; or

2. Has an annual boiler capacity factor of thirty percent (30%) or less.

(E) Unless otherwise specified in this rule, owners or operators shall have the opacity of visible emissions determined by one (1) of the methods in section (5) of this rule.

(F) Continuous Monitoring Requirements. Sources with emission units that are required to install a CMS must select one (1) of the following options:

1. Install, calibrate, and maintain a COMS according to the following conditions:

- A. Source operating time includes any time fuel is being combusted and/or a fan is being operated;

- B. 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;

- C. Certification. All COMS shall be certified by the director after review and acceptance of a demonstration of conformance with 40 CFR 60, Appendix B, Performance Specification 1, as specified in 10 CSR 10-6.030(22).

- D. Audit authority. All COMS shall be subject to audits conducted by the department, and all COMS records shall be made available upon request to department personnel; or

2. Install, calibrate, and maintain an alternative CMS according to the following conditions:

A. All alternative CMS monitoring systems requirements, system locations, reporting and record keeping requirements, and procedures for operation and maintenance must be approved by the staff director and the U.S. Environmental Protection Agency (EPA); and incorporated into this rule and the state implementation plan (SIP) prior to implementation.

B. Demonstrate that a requirement of paragraph (3)(F)1. or section (4) of this rule cannot be practically met; and

C. Demonstrate that the alternative CMS produces results that adequately verify compliance.

(G) If a CMS is malfunctioning, a non-department qualified observer measurement may be used as a temporary substitute.

(4) Reporting and Record Keeping.

(A) COMS Reporting. Owners or operators required to install COMS shall submit a quarterly written report to the director. All quarterly reports shall be postmarked no later than the thirtieth day following the end of each calendar quarter and include the following emissions data:

1. A summary including total time for each cause of excess emissions and/or monitor downtime;

2. Nature and cause of excess emissions, if known;

3. The six (6)-minute average opacity values greater than the opacity emission requirements (The average of the values shall be obtained by using the procedures specified in the Reference Method used to determine the opacity of the visible emissions);

4. The date and time identifying each period during which the COMS was inoperative (except for zero and span checks), including the nature and frequency of system repairs or adjustments that were made during these times; and

5. If no excess emissions have occurred during the reporting period and the COMS has not been inoperative, repaired or adjusted, this information shall be stated in the report.

(B) COMS Records to be Maintained. Owners or operators of affected emission units shall maintain a file (hard copy or electronic version) of the following information for a minimum of two (2) years from the date the data was collected:

1. All information reported in the quarterly summaries; and

2. All six (6)-minute opacity averages and daily Quality Assurance (QA)/Quality Control (QC) records.

(5) Test Methods.

(A) Method 9—Visual Determination of the Opacity of Emissions from Stationary Sources of 40 CFR 60, Appendix A-4, as specified in 10 CSR 10-6.030(22);

(B) Photogrammetric opacity measurement in accordance with EPA Alternative Test Method ALT-082, Decision Letter Number dated May 15, 2012 as published by EPA and hereby incorporated by reference in this rule. Copies can be obtained from the Office of Air Quality Planning and Standards, Measurement Technology Group, Mail Drop: E143-02, Research Triangle Park, NC 27711. This rule does not incorporate any subsequent amendments or additions.

(C) A modification of the test methods listed in subsections (5)(A) or (5)(B) of this rule. Any modification of a test method listed in subsections (5)(A) or (5)(B) of this rule must be approved by the director and the EPA; and incorporated into this rule and the SIP prior to implementation.

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EPA Rulemakings

CFR: 40 C.F.R. 52.1320(c)
FRM: 88 FR 14269 (3/8/2023)
PRM: 87 FR 55739 (9/12/2022)
State Submission: 11/29/2016 and 3/7/2019
State Final: 10 C.S.R. 10-6 (3/30/2019)
APDB File: MO-376 and MO-421; No. EPA-R7-OAR-2022-0746
Description: This revision removes a provision that EPA found does not meet Clean Air Act requirements and was included in a SIP call EPA issued to Missouri on June 12, 2015. This revision also adds an alternative test method and approves several exemptions for sources and source categories that are subject to equivalent or more stringent federal or state requirements.

CFR: 40 C.F.R. 52.1320(c)
FRM: 74 FR 68689 (12/29/2009)
PRM: 74 FR 68758 (12/29/2009)
State Submission: 09/16/2008
State Final: 10 C.S.R. 10-6 (8/31/2008)
APDB File: MO-272; No. EPA-R7-OAR 2008-0787
Description: This revision removes redundant definitions, removes an outdated exemption for incinerators, clarifies source opacity of visible emission determination, and updates test methods for continuous opacity monitoring systems.

CFR: 40 C.F.R. 52.1320(c)
FRM: 68 FR 12827 (03/18/2003)
PRM: 68 FR 12886 (03/18/2003)
State Submission: 11/08/2002
State Final: 10 C.S.R. 10-6 (10/31/2002)
APDB File: MO-207
Description: This revision rewords subsection (1)(A) to maintain the provisions of two rules that were rescinded, 10 CSR 10-2.080 and 10 CSR 10-5.180.

CFR: 40 C.F.R. 52.1320(c)
FRM: 65 FR 64145 (10/26/00)
PRM: 65 FR 64191 (10/26/00)
State Submission: 6/7/00
State Final: 10 C.S.R. 10-6 (10/31/99)
APDB File: MO-162
Description: This rule establishes new statewide visible emissions regulations and consolidates the following old area specific rules: 10-2.060, 10-3.080, 10-4.060 and 10-5.090.

Difference Between the State and EPA-Approved Regulation

10-6.220 Subsection (1)(I) referring to the open burning rule, 10 SCR 10-6.045, is not SIP approved.