MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

PUBLIC HEARING ON

PROPOSED AMENDMENT TO

10 CSR 10-5.500

CONTROL OF EMISSIONS FROM VOLATILE ORGANIC LIQUID STORAGE

This amendment will change sections (2), (3), and (5).

Subsections (2)(N) and (5)(B) are being amended to correct and update rule formatting language, respectively.

Subsections (3)(A) and (3)(C) are being amended to replace references to 10 CSR 10-6.030(22) with 10 CSR 10-6.070(3)(A)1.

Subsection (5)(C) is being amended to clarify a reference and causing the former (5)(C) to be renumbered to (5)(D).

Subsection (5)(D) is being amended to move an incorporation by reference to subsection (5)(E) and update rule formatting accordingly.

Subsection (5)(E) is being amended to include a reference to a test method previously found in subsection (5)(D).

Subsection (5)(F) is being added as a result of renumbering subsection (5)(D).

NOTE 1 - Legend for rule actions to be presented at public hearing is as follows:

* *Shaded Text - Rule sections or subsections not proposed for amendment. This text is only for reference.*
* *Unshaded Text - Rule sections or subsections that are proposed for change.*

NOTE 2 - All unshaded text below this line is printed in the Missouri Register.

Title 10—DEPARTMENT OF NATURAL RESOURCES

Division 10—Air Conservation Commission

Chapter 5—Air Quality Standards and Air Pollution Control Rules Specific to the St. Louis Metropolitan Area

PROPOSED AMENDMENT

10 CSR 10-5.500 Control of Emissions From Volatile Organic Liquid Storage. The commission proposes to amend subsections (2)(N), (3)(A), (3)(C), (4)(F), and (5)(B), amend and renumber subsection (5)(C), renumber subsection (5)(D), and add new subsection (5)(E). If the commission adopts this rule action, the Department intends to submit this rule amendment to the U.S. Environmental Protection Agency to replace the current rule that is in the Missouri State Implementation Plan. The evidence supporting the need for this proposed rulemaking is available for viewing at the Missouri Department of Natural Resources' Air Pollution Control Program at the address listed in the Notice of Public Hearing at the end of this rule. More information concerning this rulemaking can be found at the Missouri Department of Natural Resources' Proposed Rules website www.dnr.mo.gov/proposed-rules.

PURPOSE: This rule limits the volatile organic compound (VOC) emissions from installations with volatile organic liquid storage vessels by incorporating reasonably available control technology (RACT) as required by the Clean Air Act Amendments (CAAA) of 1990. This rulemaking will update incorporation by reference information and make administrative changes to the rule text for clarity. The evidence supporting the need for this proposed rulemaking, per 536.016, RSMo, is an email dated September 18, 2018 from EPA.

PURPOSE: This rule limits the volatile organic compound (VOC) emissions from installations with volatile organic liquid storage vessels by incorporating reasonably available control technology (RACT) as required by the Clean Air Act Amendments (CAAA) of 1990.

(1) Applicability.

(A) This rule applies throughout the City of St. Louis and St. Charles, St. Louis, Jefferson, and Franklin Counties.

(B) This rule applies to all storage vessels with a capacity greater than or equal to forty thousand (40,000) gallons that are used to store volatile organic liquid (VOL) with the following exceptions:

1. Except as specified in subsections (4)(E) and (4)(H) of this rule, storage vessels with a capacity greater than or equal to forty thousand (40,000) gallons storing a liquid with a maximum true vapor pressure less than one-half (0.5) psia are exempt from the provisions of this rule; and
2. Except as specified in subsections (4)(E) and (4)(H) of this rule, storage vessels with a design capacity less than forty thousand (40,000) gallons are exempt from the provisions of this rule.

(C) This rule does not apply to the following:

1. Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships;
2. Vessels used to store beverage alcohol;
3. Pressure vessels designed to operate in excess of twenty-nine and four-tenths (29.4) psia and without emissions to the atmosphere;
4. Vessels at coke oven by-product plants;
5. Vessels used only to store or transfer petroleum liquids and that are subject to the requirements of 10 CSR 10-5.220; and
6. Vessels used to store volatile organic liquids that are subject to or exempt from the requirements of 40 CFR 60, 61, or 63.

(2) Definitions.

(A) Beverage alcohol—Consumable products and their process intermediates and by-products, consisting of ethanol or mixtures of ethanol and non-volatile organic liquids.

(B) Closed vent system—A system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

(C) Condensate—Hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

(D) Control device—An enclosed combustion device, vapor recovery system, or flare.

(E) Control equipment—Any equipment that reduces the quantity of a pollutant that is emitted to the air. The device may destroy or secure the pollutant for subsequent recovery. Includes, but is not limited to, incinerators, carbon adsorbers, and condensers.

(F) Department—The Missouri Department of Natural Resources, which includes the director thereof, or the person or division or program within the department delegated the authority to render the decision, order, determination, finding, or other action that is subject to review by the commission.

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

(H) External floating roof—A storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by petroleum liquid being contained and is equipped with a closure seal(s) to close the space between the roof edge and tank wall.

(I) 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.

(J) Federally enforceable—All limitations and conditions which are enforceable by the administrator, including those requirements developed pursuant to 40 CFR 55, 60, 61, and 63; requirements within any applicable state implementation plan; requirements in operating permits issued pursuant to 40 CFR 70 or 71, unless specifically designated as nonfederally enforceable; and any permit requirements established pursuant to 40 CFR 52.10, 52.21, or 55, or under regulations approved pursuant to 40 CFR 51, subpart I, including operating permits issued under a U.S. Environmental Protection Agency-approved program that is incorporated into the state implementation plan and expressly requires adherence to any permit issued under such program.

(K) Fill—The introduction of VOL into a storage vessel but not necessarily to complete capacity.

(L) Internal floating roof—A product cover in a fixed roof tank which rests upon or is floated upon the volatile organic compound liquid being contained and which is equipped with a sliding seal(s) to close the space between the edge of the covers and tank shell.

(M) Liquid-mounted seal—A foam- or liquid-filled seal mounted in contact with the

liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(N) Maximum true vapor pressure—The equilibrium partial pressure exerted by the volatile organic compounds in the stored volatile organic liquid (VOL) at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOLs stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOLs stored at the ambient temperature, as determined:

1. In accordance with methods described in American Petroleum Institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks (incorporated by reference in section (5));
2. As obtained from standard reference texts;
3. As determined by ASTM D2879-83, 96, or 97 (incorporated by reference in section (5)); **or**
4. Any other method approved by the director.

(O) Mechanical shoe seal—A metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(P) Petroleum—The crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(Q) Petroleum liquids—Petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

(R) Petroleum refinery—Any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking, extracting, or reforming of unfinished petroleum derivatives.

(S) Reid vapor pressure—The absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323-82 or 94 (incorporated by reference in section (5)).

(T) Rim seal—A device attached to the rim of a floating roof deck that spans the annular space between the deck and the wall of the storage vessel. When a floating roof has only one (1) such device, it is a primary seal; when there are two (2) seals (one (1) mounted above the other), the lower seal is the primary seal and the upper seal is the secondary seal.

(U) Standard conditions—A gas temperature of seventy degrees Fahrenheit (70 °F) and a gas pressure of fourteen and seven-tenths (14.7) pounds per square inch absolute (psia).

(V) Storage vessel—Any tank, reservoir, or container used for the storage of volatile organic liquids, but does not include:

1. Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors; or
2. Subsurface caverns or porous rock reservoirs.

(W) Vapor-mounted seal—A rim seal designed not to be in contact with the stored liquid. Vapor-mounted seals may include, but are not limited to, resilient seals and flexible wiper seals.

(X) Vapor Recovery system—An individual unit or series of material recovery units, such as absorbers, condensers, and carbon adsorbers, used for recovering volatile organic compounds.
(Y) Volatile organic compound (VOC)—See definition in 10 CSR 10-6.020.
(Z) Volatile organic liquid (VOL)—Any substance which is a liquid at storage conditions containing one (1) or more volatile organic compounds.

(3) General Provisions.

(A) Every owner or operator storing VOL in a vessel of forty thousand (40,000) gallons or greater with a maximum true vapor pressure greater than or equal to one-half (0.5) psia but less than three-quarters (0.75) psia shall be subject to the record keeping requirements in subsection (4)(F) of this rule and the monitoring requirements in subsection (4)(G) of this rule. Furthermore, every owner or operator storing VOL in a vessel of forty thousand (40,000) gallons or greater with a maximum true vapor pressure equal to three-quarters (0.75) psia but less than eleven and one-tenth (11.1) psia shall reduce VOC emissions from storage vessels as follows:

1. Equip each fixed roof storage vessel with a vapor control system that meets the specifications contained in paragraph (3)(A)3. of this rule or an internal floating roof that meets the following specifications:

A. The internal floating roof shall rest or float on the liquid surface but not necessarily in complete contact with it inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied and subsequently refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and accomplished as rapidly as possible;

B. Each internal floating roof shall be equipped with one (1) of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(I) A liquid-mounted seal;

(II) Two (2) seals mounted one (1) above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous; or

(III) A mechanical shoe seal;

C. Each opening in a non-contact internal floating roof except for automatic bleeder vents such as vacuum breaker vents and the rim space vents shall provide a projection below the liquid surface;

D. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover or lid which is to be maintained in a closed position at all times with no visible gap except when the device is in actual use. The

cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use;

E. Automatic bleeder vents shall be equipped with a gasket and remain closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports;

F. Rim space vents shall be equipped with a gasket and set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting;

G. Each penetration of the internal floating roof for the purpose of sampling a sample well with a slit fabric cover that covers at least ninety percent (90%) of the opening; and

H. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover;

2. Each external floating roof storage vessel shall meet the following specifications:

A. Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device shall consist of two (2) seals, one (1) above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(I) Except as provided in subparagraph (3)(C)2.D. of this rule, the primary seal shall completely cover the annular space between the edge of the floating roof and storage vessel wall and shall be either a liquid-mounted seal or a mechanical shoe seal.

(II) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in subparagraph (3)(C)2.D. of this rule;

B. Except for automatic bleeder vents and rim space vents, each opening in a non-contact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times with no visible gap except when the device is in actual use. Automatic bleeder vents shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents shall be set open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents shall be gasketed. Each emergency roof drain shall include a slotted membrane fabric cover that covers at least ninety percent (90%) of the area of the opening; and

C. The roof shall be floating off the roof leg supports on the liquid at all times except when the storage vessel is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and accomplished as rapidly as possible;

3. Closed vent systems and control devices respectively shall meet the following specifications:

A. The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than five hundred parts per million (500 ppm) above background and visual inspections, as determined by the methods in 40 CFR 60.485(c), as specified in [~~10 CSR 10-6.030(22)~~]**10 CSR 10-6.070(3)(A)1.**; and

B. The control device shall be designed and operated to reduce inlet VOC emissions by ninety percent (90%) or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements of 40 CFR 60.18, as specified in [~~10 CSR 10-6.030(22)~~]**10 CSR 10-6.070(3)(A)1.**; or

4. An alternative emission control plan equivalent to the requirements of paragraphs (3)(A)1., (3)(A)2., or (3)(A)3. of this rule that has been approved by the department and the United States Environmental Protection Agency in a federally enforceable permit.

(B) The owner or operator of each storage vessel with a design capacity equal to or greater than forty thousand (40,000) gallons which contains VOL that, as stored, has a maximum true vapor pressure greater than or equal to eleven and one-tenth (11.1) psia shall equip each storage vessel with a closed vent system and control device as specified in paragraph (3)(A)3. of this rule.

(C) Testing Requirements. The owner or operator of each storage vessel specified in section (1) of this rule shall comply with the requirements of paragraph (3)(C)1., (3)(C)2., or (3)(C)3. of this rule. The applicable requirements for a particular storage vessel depends on the control equipment installed to meet the requirements of this rule.

1. After installing the control equipment necessary to comply with paragraph (3)(A)1. of this rule for permanently affixed roofs and internal floating roofs, each owner or operator shall—

A. Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one (1) is in service) prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, repair the items before filling the storage vessel;

B. For storage vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one (1) is in service)

through manholes and roof hatches on the fixed roof at least once every twelve (12) months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or if there is liquid accumulated on the roof, or if the seal is detached, or if there are holes or tears in the seal fabric, repair the items or empty and remove the storage vessel from service within forty-five (45) days. If a failure that is detected during inspections required in this rule subsection cannot be repaired within forty-five (45) days and if the storage vessel cannot be emptied within forty-five (45) days, the owner or operator may request a thirty (30)-day extension from the department in the inspection report described in paragraph (4)(A)2. of this rule. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the owner or operator will take that will assure that the control equipment will be repaired or the storage vessel will be emptied within thirty (30) days;

C. For storage vessels equipped with both primary and secondary seals—

(I) Visually inspect the storage vessel as specified in subparagraph (3)(C)1.D. of this rule at least every five (5) years; or

(II) Visually inspect the storage vessel as specified in subparagraph (3)(C)1.B. of this rule;

D. Visually inspect the internal floating roof, primary seal, secondary seal (if one (1) is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal, or if the seal fabric or the secondary seal has holes, tears, or other openings in the seal, or if the seal fabric or the gaskets no longer close off the liquid surfaces from the atmosphere, or if the slotted membrane has more than ten percent (10%) open area, repair the items as necessary so that none of the conditions specified in this rule subsection exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than ten (10) years in the case of storage vessels subject to the annual visual inspection as specified in subparagraph (3)(C)1.B. and part (3)(C)1.C.(II) of this rule and at intervals no greater than five (5) years in the case of storage vessels specified in part (3)(C)1.C.(I) of this rule; and

E. Notify the department in writing at least thirty (30) days prior to the filling or refilling of each storage vessel for which an inspection is conducted in accordance with subparagraphs (3)(C)1.A. and (3)(C)1.D. of this rule to afford the department the opportunity to have an observer present. If the inspection under subparagraph (3)(C)1.D. of this rule is not planned and the owner

or operator could not have known about the inspection thirty (30) days in advance of refilling the storage vessel, notify the department at least seven (7) days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the department at least seven (7) days prior to the refilling.

2. The owner or operator of external floating roof storage vessels shall—

A. Determine the gap areas and maximum gap widths between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel.

(I) Perform measurements of gaps between the storage vessel wall and the primary seal (seal gaps) during the hydrostatic testing of the storage vessel or within sixty (60) days after the initial fill with VOL and at least once every five (5) years thereafter.

(II) Perform measurements of gaps between the storage vessel wall and the secondary seal within sixty (60) days after the initial fill with VOL and at least once per year thereafter.

(III) If any source ceases to store VOL for a period of one (1) year or more, subsequent introduction of VOL into the storage vessel shall be considered an initial fill for the purposes of parts (3)(C)2.A.(I) and (3)(C)2.A.(II) of this rule;

B. Determine gap widths and areas in the primary and secondary seals individually according to the following procedures:

(I) Measure seal gaps, if any, at one (1) or more floating roof levels when the roof is floating off the roof leg supports;

(II) Measure seal gaps around the entire circumference of the storage vessel in each place where a one-eighth inch (1/8") in diameter uniform probe passes freely without forcing or binding against seal between the seal and the wall of the storage vessel and measure the circumferential distance of each such location; and

(III) Determine the total surface area of each gap described in part (3)(C)2.B.(II) of this rule by using probes of various widths to measure accurately the actual distance from the storage vessel wall to the seal and multiplying each such width by its respective circumferential distance;

C. Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each by the nominal diameter of the storage vessel and compare each ratio to the respective standards in subparagraph (3)(C)2.D. of this rule;

D. Make necessary repairs or empty the storage vessel within forty-

five (45) days after identification in any inspection for seals not meeting the requirements listed in parts (3)(C)2.D.(I) and (3)(C)2.D.(II) of this rule.

(I) The accumulated area of gaps between the storage vessel wall and the mechanical shoe or liquid-mounted primary seal shall not exceed one inch (1.0") per foot of storage vessel diameter, and the width of any portion of any gap shall not exceed one and one-half inches (1.5"). There shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(II) The secondary seal shall meet the following requirements:

(a) Be installed above the primary seal so that it completely covers the space between the roof edge and the storage vessel wall except as provided in part (3)(C)2.B.(III) of this rule;

(b) The accumulated area of gaps between the storage vessel wall and the secondary seal used in combination with a metallic shoe or liquid-mounted primary seal shall not exceed one inch (1.0") per foot of storage vessel diameter, and the width of any portion of any gap shall not exceed one-half inch (0.5"). There shall be no gaps between the storage vessel wall and the secondary seal when used in combination with a vapor mounted primary seal; and

(c) There shall be no holes, tears, or other openings in the seal or seal fabric.

(III) If a failure that is detected during inspections required in subparagraph (3)(C)2.A. of this rule cannot be repaired within forty-five (45) days and if the storage vessel cannot be emptied within forty-five (45) days, the owner or operator may request a thirty (30)-day extension from the department in the inspection report required in subparagraph (3)(C)2.D. of this rule. Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the storage vessel will be emptied as soon as possible;

E. Notify the department thirty (30) days in advance of any gap measurements required by subparagraph (3)(C)2.A. of this rule to afford the department the opportunity to have an observer present; and

F. Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the storage vessel is emptied and degassed.

(I) If the external floating roof has defects, if the primary seal

has holes, tears, or other openings in the seal or the seal fabric, or if the secondary seal has holes, tears, or other openings in the seal or the seal fabric, repair the items as necessary so that none of the conditions specified in this rule subsection exist before filling or refilling the storage vessel with VOL.

(II) For all the inspections required by subparagraph (3)(C)2.F. of this rule, the owner or operator shall notify the department in writing at least thirty (30) days prior to the filling or refilling of each storage vessel to afford the department the opportunity to inspect the storage vessel prior to refilling. If the inspection under subparagraph (3)(C)2.F. of this rule is not planned and the owner or operator could not have known about the inspection thirty (30) days in advance of refilling the storage vessel, notify the department at least seven (7) days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be sent by express mail so that it is received by the department at least seven (7) days prior to the refilling.

3. The owner or operator of each storage vessel equipped with a closed vent system and a flare to meet the requirements of paragraph (3)(A)3. of this rule shall meet the requirements specified in the general control device requirements of 40 CFR 60.18(e) and (f), as specified in [~~10 CSR 10-6.030(22)~~]**10 CSR 10-6.070(3)(A)1**.

(4) Reporting and Record Keeping.

(A) After installing control equipment in accordance with paragraph (3)(A)1. of this rule for fixed roofs and internal floating roofs, the owner or operator shall—

1. Keep a record of each inspection performed as required by subparagraphs (3)(C)1.A., (3)(C)1.B, (3)(C)1.C., and (3)(C)1.D. of this rule. Each record shall identify the storage vessel on which the inspection was performed, contain the date the storage vessel was inspected, and the observed condition of each component of the control equipment including seals, internal floating, and fittings;
2. If any of the conditions described in subparagraph (3)(C)1.B. of this rule are detected during the annual visual inspection, report to the department within twenty (20) days after the inspection the identity of the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made; and
3. After each inspection required by subparagraph (3)(C)1.C. of this rule where tears or holes in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in part

(3)(C)1.C.(II) of this rule are discovered, report to the department within twenty (20) days after the inspection the identity of the storage vessel and the reason it did not meet the specifications of paragraph (3)(A)1. or (3)(C)1. of this rule, and list each repair made.

(B) After installing control equipment in accordance with paragraph (3)(A)2. of this rule for external floating roofs, the owner or operator shall—

1. Within sixty (60) days after performing the seal gap measurements required by subparagraph (3)(C)2.A. of this rule, furnish the department with a report that contains the date of measurement, the raw data obtained in the measurement, and the calculations of this rule described in subparagraphs (3)(C)2.B. and (3)(C)2.C. of this rule;
2. Maintain records of each gap measurement performed under subparagraph (3)(C)2.B. of this rule. Such records shall identify the storage vessel in which the measurement was performed and shall contain the date of measurement, the raw data obtained in the measurement, and the calculations of this rule described in subparagraphs (3)(C)2.B. and (3)(C)2.C. of this rule; and
3. After each seal gap measurement that detects gaps exceeding the limitations specified by subparagraph (3)(C)2.D. of this rule, submit a report to the department within twenty (20) days after the inspection identifying the storage vessel and containing the information specified in paragraph (4)(B)1. of this rule and the date the storage vessel was emptied or the repairs were made and the date of the repair.

(C) After installing control equipment to comply with subsection (3)(C) of this rule for closed vent systems and control device other than a flare, the owner or operator shall maintain a record of the measured values of the parameters monitored in accordance with the requirements of this rule.

(D) After installing a closed vent system and flare to comply with subsection (3)(C) of this rule, the owner or operator shall—

1. Provide the department with a report containing the measurements recorded under paragraph (3)(C)3. of this rule within six (6) months after the initial start-up date;
2. Maintain records of all periods of operation during which the flare pilot flame is absent; and
3. Report semiannually all periods recorded under paragraph (4)(D)2. of this rule in which the pilot flame was absent.

(E) The owner or operator of each storage vessel specified in section (1) of this rule shall maintain readily accessible records of the dimensions of the storage vessel and an analysis of the capacity of the storage vessel.

(F) Except as provided in paragraphs (4)(G)3. and (4)(G)4. of this rule, the owner or operator of each storage vessel subject to the requirements in subsection (3)(A) or (3)(B) of this rule with a design capacity greater than or equal to forty thousand (40,000) gallons storing a liquid with a maximum true vapor pressure greater than or equal to one-half (0.5) psia but less than three-quarters (0.75) psia shall maintain a record of the VOL storage, the period of storage, and the maximum true vapor pressure of the VOL during the respective storage period.

(G) Monitoring Requirements.

1. Except as provided in paragraph (4)(G)4. of this rule, the owner or operator of each storage vessel with a design capacity greater than or equal to forty thousand (40,000) gallons storing a liquid with a maximum true vapor pressure that is normally less than three-quarters (0.75) psia shall notify the department within thirty (30) days when the maximum true vapor pressure of the liquid exceeds three-quarters (0.75) psia.
2. Available data on the storage temperature may be used to determine the maximum true vapor pressure.
   A. For storage vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For storage vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.
   B. For other liquids, the vapor pressure shall be determined by an appropriate test method in section (5) of this rule or calculated by an appropriate method approved by the department.
3. The owner or operator of each storage vessel storing a mixture of indeterminate or variable composition shall be subject to the following:
   A. Prior to the initial filling of the storage vessel, the maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (4)(G)2. of this rule; and
   B. For storage vessels in which the vapor pressure of the anticipated liquid composition is one-half (0.5) psia or greater but less than three-quarters (0.75) psia, perform an initial physical test of the vapor pressure; a physical test at least once every six (6) months thereafter is required as determined by an appropriate test method in section (5) of this rule.
4. The owner or operator of each storage vessel equipped with a closed vent system and control device meeting the specifications of subsection (3)(A) or (3)(B) of this rule is exempt from the requirements of paragraphs (4)(G)1. and (4)(G)2. of this rule.

(H) The owner or operator shall maintain all records required by this rule section, except for the records described in subsection (4)(E) of this rule, on-site for at least five (5) years. The records described in subsection (4)(E) of this rule shall be kept on-site for the life of the source. The records required by this rule shall be made available to the department immediately upon request.

(5) Test Methods.

(A) American Petroleum Institute (API) Bulletin 2517, *Evaporation Loss From External Floating Roof Tanks*, Second Edition, as published by API, February 1980. This publication is hereby incorporated by reference in this rule. Copies can be obtained from API, 1220 L Street NW, Washington, DC 20005. This rule does

not incorporate any subsequent amendments or additions.

(B) The following documents are published by the American Society for Testing and Materials (ASTM) and incorporated by reference in this rule. Copies can be obtained from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. This rule does not incorporate any subsequent amendments or additions[—]**:**

1. ASTM D323-82 or 94 *Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)*; **and**
2. ASTM D2879-83, 96, or 97 *Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope*;

(C) The following ASTMs as specified in 10 CSR 10-6.040(36):

[~~3.~~]**1.** ASTM D4953 *Standard Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method)*; and

[~~4.~~]**2.** ASTM D5191 *Standard Test Method for Vapor Pressure of Petroleum Products (Mini Method)[~~.~~];*

[~~(C)~~]**(D)** The following test methods [~~are incorporated~~]as specified in 10 CSR 10-6.030(22):

1. Test Methods 1 and 2 (40 CFR 60, Appendix A) for determining flow rates, as necessary;
2. Test Method 18 (40 CFR 60, Appendix A) for determining gaseous organic compound emissions by gas chromatography;
3. Test Method 21 (40 CFR 60, Appendix A) for determination of volatile organic compound leaks;
4. Test Method 22 (40 CFR 60, Appendix A) for visual determination of fugitive emissions from material sources and smoke emissions from flares;
5. Test Method 25 (40 CFR 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon; **and**
6. Test Methods 25A or 25B (40 CFR 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis; [~~and~~

~~7. Test method described in 40 CFR 60.113(a)(ii) for measurement of storage tank seal gap;~~]

(E) Test method described in 40 CFR 60.113(a)(ii) as specified in 10 CSR 10-6.070(3)(A)1. for measurement of storage tank seal gap;

[~~(D)~~]**(F)** Other method approved by the director.

AUTHORITY: section 643.050, RSMo 2016. Original rule filed July 15, 1999, effective Feb. 29, 2000. Amended: Filed May 9, 2018, effective Feb. 28, 2019. Amended: Filed Oct. 8, 2019.

PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars ($500) in the aggregate.

PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars ($500) in the aggregate.

NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS: A public hearing on this proposed amendment will begin at 9:00 a.m., January 30, 2020. The public hearing will be held at the Elm Street Conference Center, 1730 East Elm Street, Lower Level, Bennett Springs Conference Room, Jefferson City, Missouri. Opportunity to be heard at the hearing shall be afforded to any interested person. Interested persons, whether or not heard, may submit a statement of their views until 5:00 p.m., February 6, 2020. Send online comments via the proposed rules web page www.dnr.mo.gov/proposed-rules, email comments to apcprulespn@dnr.mo.gov, or written comments to Chief, Air Quality Planning Section, Missouri Department of Natural Resources' Air Pollution Control Program, PO Box 176, Jefferson City, MO 65102-0176.

PUBLIC HEARING ON

PROPOSED AMENDMENT TO

10 CSR 10-6.241

ASBESTOS PROJECTS—REGISTRATION, ABATEMENT, NOTIFICATION, INSPECTION, DEMOLITION, AND PERFORMANCE REQUIREMENTS

This amendment will change subsections (3)(A), (3)(E), (3)(F), and (3)(I).

Subsections (3)(A) and (3)(F) are being amended for clarification and to remove obsolete dates and fees.

Subsection (3)(E) is being amended to replace a reference to 10 CSR 10-6.030(23) with a reference to 10 CSR 10-6.080(3)(A), remove obsolete dates and fees, update the list acceptable methods of submitting asbestos project notification and amendment forms, and clarify rule language.

Subsection (3)(I) is being amended to remove an obsolete date.

NOTE 1 - Legend for rule actions to be presented at public hearing is as follows:

* *Shaded Text - Rule sections or subsections not proposed for amendment. This text is only for reference.*
* *Unshaded Text - Rule sections or subsections that are proposed for change.*

NOTE 2 - All unshaded text below this line is printed in the Missouri Register.

Title 10—DEPARTMENT OF NATURAL RESOURCES

Division 10—Air Conservation Commission

Chapter 6— Air Quality Standards, Definitions, Sampling and Reference Methods and Air Pollution Control Regulations for the Entire State of Missouri

PROPOSED AMENDMENT

10 CSR 10-6.241 Asbestos Projects—Registration, Abatement, Notification, Inspection, Demolition, and Performance Requirements. The commission proposes to amend subsections (3)(A), (3)(E), (3)(F), and (3)(I). If the commission adopts this rule action, the Department does not intend to submit this rule amendment to the U.S. Environmental Protection Agency (EPA) because the rule is administrative and the rule has never been approved as part of the Missouri State Implementation Plan. The evidence supporting the need for this proposed rulemaking is available for viewing at the Missouri Department of Natural Resources' Air Pollution Control

Program at the address listed in the Notice of Public Hearing at the end of this rule. More information concerning this rulemaking can be found at the Missouri Department of Natural Resources' Proposed Rules website www.dnr.mo.gov/proposed-rules.

PURPOSE: This rule requires asbestos contractors to register with the department, to notify the department of each asbestos project, to allow the department to inspect asbestos projects, and to pay inspection fees. Each person who intends to perform asbestos projects in Missouri must register annually with the Missouri Department of Natural Resources' Air Pollution Control Program. Any person undertaking a demolition or asbestos project must submit a notification to the appropriate agency of the department for each asbestos project and each notification must be accompanied by a fee. Asbestos contractors must allow representatives of the department to conduct inspections of projects and must pay inspection fees. This proposed amendment will remove an erroneous reference to 10 CSR 10-6.030(23) and replace it with a reference to 10 CSR 10-6.080(3)(A), where 40 CFR 61 subpart M is appropriately incorporated by reference. The incorporation by reference of 40 CFR 61 subpart M is being removed from 10 CSR 10-6.030(23) to address U.S. Environmental Protection Agency (EPA) concerns regarding the incorporation by reference of certain federal regulations. This proposed amendment will also remove obsolete dates and fees, and update the acceptable methods of submitting asbestos project notification and amendment forms. The evidence supporting the need for this proposed rulemaking, per 536.016, RSMo, is an EPA comment letter dated September 18, 2018.

PURPOSE: This rule requires asbestos contractors to register with the department, to notify the department of each asbestos project, to allow the department to inspect asbestos projects, and to pay inspection fees. Each person who intends to perform asbestos projects in Missouri must register annually with the Missouri Department of Natural Resources' Air Pollution Control Program. Any person undertaking a demolition or asbestos project must submit a notification to the appropriate agency of the department for each asbestos project and each notification must be accompanied by a fee. Asbestos contractors must allow representatives of the department to conduct inspections of projects and must pay inspection fees.

(1) Applicability.

(A) This rule applies to—

1. All persons that authorize, design, conduct, and work in asbestos projects; and
2. All persons that undertake demolitions or monitor air-borne asbestos and dispose of asbestos waste as a result of asbestos projects.

(B) Exemptions. The department may exempt a person from registration, certification, and certain notification requirements provided the person conducts asbestos projects solely at the person's own place of business as part of normal operations in the facility and also is subject to the requirements and applicable standards of the United States Environmental Protection Agency (EPA) and United States Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101 promulgated as of July 1, 2018 and are hereby incorporated by reference as published by the Office of the Federal Register. Copies can be obtained from the U.S. Publishing Office Bookstore, 710 N. Capitol Street NW, Washington, DC 20401. This rule does not incorporate any subsequent amendments or additions.

This exemption shall not apply to asbestos contractors, to those subject to the requirements of the Asbestos Hazard Emergency Response Act (AHERA), and to those persons who provide a service to the public in their place(s) of business as the economic foundation of the facility. These shall include, but not be limited to, child daycare centers, restaurants, nursing homes, retail outlets, medical care facilities, hotels, and theaters. Business entities that have received state approved exemption status shall comply with all federal air sampling requirements for their planned renovation operations. The Asbestos Hazard Emergency Response Act as published by the Department of Commerce and Trade October 1986 is incorporated by reference in this rule. Copies can be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161. This rule does not incorporate any subsequent amendments or additions.

(2) Definitions.

(A) Asbestos—The asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolitetremolite.

(B) Asbestos abatement—The encapsulation, enclosure, or removal of asbestos-containing materials, in or from a facility, or air contaminant source; or preparation of regulated asbestos-containing material prior to demolition or renovation.

(C) Asbestos inspector— An individual who collects and assimilates information used to determine the presence and condition of asbestos-containing material in a facility or other air contaminant source. An asbestos inspector has to hold a diploma from a fully-approved EPA or Missouri-accredited AHERA inspector course and a high school diploma or its equivalent.

(D) Demolition—The wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

(E) Regulated asbestos-containing material (RACM)—Defined as follows:

1. Friable asbestos material;
2. Category I nonfriable ACM that has become friable;
3. Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; or
4. Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this paragraph.

(F) Definitions. 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) Registration.

1. Any person that conducts an asbestos project shall register with the department. Business entities that qualify for exemption status from the state must reapply for exemption from registration.
2. The person shall apply for registration renewal on an annual basis, and

two (2) months before the expiration date shall send the application to the department for processing. The contractor registration application or business exemption information shall be submitted on the forms provided by the department.

3. Annually, the person submitting a registration application to the department shall remit a nonrefundable fee of [~~one thousand dollars ($1,000) to the department. Effective January 1, 2017, the registration fee is~~]two thousand six hundred fifty dollars ($2,650) **to the department**.
4. To determine eligibility for registration and registration renewal, the department may consider the compliance history of the applicant as well as that of all management employees and officers. The department may also consider the compliance record of any other entity of which those individuals were officers and management employees.
5. Registration may be denied for any one (1) or more of the following reasons:
   A. Providing false or misleading statements in the application;
   B. Failure to submit a complete application;
   C. Three (3) or more citations or violations of existing asbestos regulations within the last two (2) years;
   D. Three (3) or more violations of 29 CFR 1910.1001 or 29 CFR 1926.1101 within the last two (2) years;
   E. Fraud or failure to disclose facts relevant to their application; and
   F. Any other information which may affect the applicant's ability to appropriately perform asbestos work.

(B) Abatement Procedures and Practices.
1. Asbestos project contractors shall use only individuals that have been certified by the department in accordance with 10 CSR 10-6.250 and Chapter 643, RSMo on asbestos abatement projects.
2. At each asbestos project site the person shall provide the following information for inspection by the department:
   A. Proof of current departmental registration;
   B. Proof of current departmental occupational certification for those individuals on the project;
   C. Most recent available air sampling results;
   D. Current photo identification for all applicable individuals engaged in the project; and
   E. Proof of passage of the training course for the air sampling technicians and photo identifications for air sampling technicians.

(C) Revocation of Registration. The director may deny, suspend, or revoke any person's registration obtained under section (3) of this rule if the director finds the person in violation of sections 643.225–643.250, RSMo or Missouri rules 10 CSR 10-6.241 or 10 CSR 10-6.250 or any applicable federal, state, or local standard for asbestos abatement projects.

(D) Any person that authorizes an asbestos project, asbestos inspection, or any AHERA-related work shall ensure that Missouri registered contractors and certified individuals are employed, and that all post-notification procedures on the

project are in compliance with this rule and 10 CSR 10-6.250 and Chapter 643, RSMo. Business entities that have exemption status from the state are exempt from using registered contractors and from post-notification requirements, when performing in-house asbestos abatement projects.

(E) Asbestos Project Notification. Any person undertaking an asbestos project shall submit a notification to the department for review at least ten (10) working days prior to the start of the project. Business entities with state-approved exemption status are exempt from notification except for those projects for which notification is required by the EPA's National Emission Standards for Hazardous Air Pollutants (NESHAPS). The department may waive the ten (10)-working day review period upon request for good cause. To apply for this waiver, the person shall complete the appropriate sections of the notification form provided by the department. The person who applies for the ten (10)-working day waiver must obtain approval from the department before the project can begin.

1. The person shall submit the notification **by email, U.S. Postal Service, FAX, or commercial delivery on the** form provided by the department.
2. If an amendment to the notification is necessary, the person shall notify the department immediately by **email,** [~~telephone~~]**U.S. Postal Service, commercial delivery,** or FAX.[~~The department must receive the written amendment within five (5) working days following verbal agreement.~~]
3. Asbestos project notifications shall state actual dates and times of the project, the on-site supervisor, and a description of work practices. If the person must revise the dates and times of the project, the person shall notify the department and the regional office or the appropriate local delegated enforcement agency at least twenty-four (24) hours in advance of the change by **email,** [~~telephone~~]**U.S. Postal Service, commercial delivery,** or FAX**.**[~~and then immediately follow-up with a written amendment stating the change. The department must receive the written amendment within five (5) working days of the phone or FAX message.~~]
4. A nonrefundable notification fee of [~~one~~]**two** hundred dollars [~~($100)~~]**($200)** will be charged for each project constituting one hundred sixty (160) square feet, two hundred sixty (260) linear feet, or thirty-five (35) cubic feet or greater. [~~Effective January 1, 2017, the notification fee is two hundred dollars ($200).~~]If an asbestos project is in an area regulated by an authorized local air pollution control agency, and the person is required to pay notification fees to that agency, the person is exempt from paying the state fees. Persons conducting planned renovation projects determined by the department to fall under EPA's 40 CFR part 61 subpart M as specified in [~~10 CSR 10-6.030(23)~~]**10 CSR 10-6.080(3)(A)** must pay this fee and the inspection fees required in subsection (3)(F) of this rule.
5. Emergency project. Any person undertaking an emergency asbestos project shall notify the department within twenty-four (24) hours of the onset of the [~~emergency~~]**project** by telephone or by email and must receive departmental approval of emergency status. Business entities with state-approved exemption status are exempt from emergency notification

for state-approved projects that are part of a NESHAPS planned renovation annual notification. If the emergency occurs after normal working hours or weekends, the person shall contact the Environmental Services Program. The notice shall provide—

A. A description of the nature and scope of the emergency;

B. A description of the measures immediately used to mitigate the emergency; and

C. A schedule for removal. Following the emergency notice, the person shall provide to the director a notification on the form provided by the department and submit it to the director within seven (7) days of the onset of the emergency. The amendment requirements for notification found in subsection (3)(E) of this rule are applicable to emergency projects.

(F) Inspections. There shall be a charge of [~~one~~]**two** hundred dollars [~~($100)~~]**($200)** per inspection for the first [~~three (3)~~]**two (2)** inspections of any asbestos project. [~~Effective January 1, 2017, the inspection fee is two hundred dollars ($200) per inspection for the first two (2) inspections.~~]The department or the local delegated enforcement agency shall bill the person for that inspection(s) and the person shall submit the fee(s) within sixty (60) days of the date of the invoice, or sooner, if required by a local delegated enforcement agency within its area of jurisdiction.

(G) All information required under this rule must be submitted on the appropriate forms and contain accurate, legible information. Failure to provide the required information, failure to submit legible information, submission of false information, or failure to provide complete information as required, shall be a violation of this rule and may result in the director's denial or revocation of the forms submitted.

(H) Failure to comply with this rule is a violation of this rule and Chapter 643, RSMo. Compliance with this rule does not relieve the participants from compliance with any other applicable federal and state rules, laws, standards, or building codes.

(I) Demolition. [~~Effective January 1, 2017, a~~]**A** nonrefundable notification fee of one hundred dollars ($100) will be charged for each demolition regulated under 10 CSR 10-6.080. If a demolition is in an area regulated by an authorized local air pollution control agency and the person is required to pay notification fees to that agency, the person is exempt from paying the state fees.

(4) Reporting and Record Keeping.

(A) Post-Notification.

1. Any person undertaking an asbestos project that requires notification according to subsection (3)(E) of this rule, on the department-provided form shall notify the department within sixty (60) days of the completion of the project. This notice shall include a signed and dated receipt for the asbestos waste generated by the project issued by the landfill named on the notification and any final clearance air monitoring results. The technician performing the analysis shall sign and date all reports of analyses.

2. Business entities are exempt from post-notification requirements, but shall keep records of waste disposal for department inspection.

(B) Additional Record Keeping. The contractor and the owner shall keep the air monitoring results for three (3) years and make the results available to representatives of the department upon request. All AHERA projects shall comply with EPA air monitoring requirements in 40 CFR part 763 promulgated as of July 1, 2018 and are hereby incorporated by reference as published by the Office of the Federal Register. Copies can be obtained from the U.S. Publishing Office Bookstore, 710 N. Capitol Street NW, Washington, DC 20401. This rule does not incorporate any subsequent amendments or additions.

(5) Test Methods. *(Not Applicable)*

AUTHORITY: section 643.225, RSMo 2016, Original rule filed Jan. 12, 2004, effective Sept. 30, 2004. Amended: Filed June 7, 2007, effective Jan. 30, 2008. Amended: Filed July 14, 2015, effective Feb. 29, 2016. Amended: Filed May 9, 2018, effective Feb. 28, 2019. Amended: Filed Oct. 8, 2019.

PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars ($500) in the aggregate.

PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars ($500) in the aggregate.

NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS: A public hearing on this proposed amendment will begin at 9:00 a.m., January 30, 2020. The public hearing will be held at the Elm Street Conference Center, 1730 East Elm Street, Lower Level, Bennett Springs Conference Room, Jefferson City, Missouri. Opportunity to be heard at the hearing shall be afforded to any interested person. Interested persons, whether or not heard, may submit a statement of their views until 5:00 p.m., February 6, 2020. Send online comments via the proposed rules web page www.dnr.mo.gov/proposed-rules, email comments to apcprulespn@dnr.mo.gov, or written comments to Chief, Air Quality Planning Section, Missouri Department of Natural Resources' Air Pollution Control Program, PO Box 176, Jefferson City, MO 65102-0176.

PUBLIC HEARING ON

PROPOSED AMENDMENT TO

10 CSR 10-5.540

CONTROL OF EMISSIONS FROM BATCH PROCESS OPERATIONS

This amendment will change the *PURPOSE*, and subsections (3)(C) and (5)(C).

The rule *PURPOSE* is being amended to clarify that the intent of the rule is to limit volatile organic compound emissions specifically in the St. Louis 1997 ozone nonattainment area.

Subsections (3)(C) and (5)(C) are being amended to replace references to 10 CSR 10-6.030(22) with 10 CSR 10-6.070(3)(A)1.

NOTE 1 - Legend for rule actions to be presented at public hearing is as follows:

* *Shaded Text - Rule sections or subsections not proposed for amendment. This text is only for reference.*
* *Unshaded Text - Rule sections or subsections that are proposed for change.*

NOTE 2 - All unshaded text below this line is printed in the Missouri Register.

Title 10—DEPARTMENT OF NATURAL RESOURCES

Division 10—Air Conservation Commission

Chapter 5—Air Quality Standards and Air Pollution Control Rules Specific to the St. Louis Metropolitan Area

PROPOSED AMENDMENT

10 CSR 10-5.540 Control of Emissions From Batch Process Operations. The commission proposes to amend the rule purpose and subsections (3)(C) and (5)(C). If the commission adopts this rule action, the Department intends to submit this rule amendment to the U.S. Environmental Protection Agency to replace the current rule that is in the Missouri State Implementation Plan. The evidence supporting the need for this proposed rulemaking is available for viewing at the Missouri Department of Natural Resources' Air Pollution Control Program at the address listed in the Notice of Public Hearing at the end of this rule. More information concerning this rulemaking can be found at the Missouri Department of Natural Resources' Proposed Rules website www.dnr.mo.gov/proposed-rules.

PURPOSE: This rulemaking will correct references to other state and federal rules within this rule to address U.S. Environmental Protection Agency (EPA) concerns so that it can be approved into the Missouri State Implementation Plan and clarify the rule intent. This rulemaking will maintain consistency with the criteria in Section 3c of Executive Order 17-03 for all new and existing regulations. The evidence supporting the need for this proposed rulemaking, per 536.016, RSMo, is an email dated September 18, 2018, from EPA.

PURPOSE: This rule limits the volatile organic compound (VOC) emissions from batch process operations by incorporating reasonably available control technology (RACT) ***in the St. Louis 1997 ozone nonattainment area*** *as required by the Clean Air Act Amendments (CAAA) of 1990.*

(1) Applicability.

(A) This rule applies throughout the City of St. Louis and St. Charles, St. Louis, Jefferson, and Franklin Counties.

(B) This rule applies to all batch process operations that have the potential to emit one hundred (100) tons or more per year of volatile organic compounds (VOC) at facilities identified by any of the following four (4)-digit standard industrial classification (SIC) codes, as defined in the 1987 edition of the *Federal Standard Industrial Classification Manual*, which is hereby incorporated by reference in this rule, as published by the Executive Office of the President, Office of Management and Budget. Copies can be obtained from the U.S. Publishing Office Bookstore, 710 N. Capitol Street NW, Washington, DC 20401. This rule does not incorporate any subsequent amendments or additions:

1. SIC 2821 *Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers*;
2. SIC 2833 *Medicinal Chemicals and Botanical Products*;
3. SIC 2834 *Pharmaceutical Preparations*;
4. SIC 2861 *Gum and Wood Chemicals*;
5. SIC 2865 *Cyclic Organic Crudes and Intermediates, and Organic Dyes and Pigments*;
6. SIC 2869 *Industrial Organic Chemicals, Not Elsewhere Classified*; or
7. SIC 2879 *Pesticides and Agricultural Chemicals, Not Elsewhere Classified*.

(C) The following single unit operations and batch process trains are exempt from the control requirements of section (3) of this rule. However, the record keeping and reporting requirements in section (4) of this rule shall apply to such single unit operations and batch process trains:

1. Within a batch process operation, any single unit operation with uncontrolled total annual mass emissions of less than or equal to five hundred (500) pounds per year (lb/yr) of VOC. These single unit operations are also excluded from the calculation of the total annual mass emissions for a batch process train. If the uncontrolled total annual mass emissions from an exempt single unit operation exceed five hundred (500) lb/yr of VOC in any subsequent year, the owner or operator shall calculate applicability in accordance with subsection (1)(E) of this rule for both the individual single unit operation and the batch process train containing the single unit operation; and

2. Any batch process train containing process vents that have, in the aggregate, uncontrolled total annual mass emissions, as determined in accordance with paragraph (3)(D)1. of this rule, of less than thirty thousand (30,000) lb/yr of VOC for all products manufactured in that batch process train.

(D) The applicability equations in subsection (1)(E) of this rule, which require the calculation of uncontrolled total annual mass emissions and flow rate value, shall be used to determine whether a single unit operation or a batch process train is subject to the control requirements in section (3) of this rule. The applicability equations apply to the following:

1. Any single unit operation with uncontrolled total annual mass emissions that exceed five hundred (500) lb/yr of VOC and a VOC concentration greater than five hundred (500) parts per million by volume (ppmv). In this individual determination, the applicability analysis should not be performed for any single unit operation with a VOC concentration less than or equal to five hundred (500) ppmv; and
2. Any batch process train containing process vents which, in the aggregate, have uncontrolled total annual mass emissions of thirty thousand (30,000) lb/yr or more of VOC from all products manufactured in the batch process train. Any single unit operation with uncontrolled total annual mass emissions exceeding five hundred (500) lb/yr, regardless of VOC concentration, shall be included in the aggregate applicability analysis.

(E) Applicability Equations. The applicability equations in this rule subsection are specific to volatility.

1. Weighted average volatility (WAV) shall be calculated as follows:

$$WAV = \frac{\sum_{i=1}^{n} \frac{[(VP_i) \times (MVOC_i)]}{[(MWVOC_i)]}}{\sum_{i=1}^{n} \frac{[(MVOC_i)]}{[(MWVOC_i)]}}$$

where:

WAV =weighted average volatility;
$MVOC_i$ =mass of VOC component i;
$MWVOC_i$ =molecular weight of VOC component i; and
VP_i =vapor pressure of VOC component i.

2. For purposes of determining applicability, flow rate values shall be calculated as follows:
   A. For low WAV has a vapor pressure less than or equal to seventy-five (75) millimeters of Mercury (mmHg) at twenty degrees Celsius (20 °C), and shall use the following equation:

FR = [0.07 (UTAME)] - 1,821

Where:
FR =Vent stream flow rate, expressed as standard cubic feet per minute (scfm);
UTAME =Uncontrolled total annual mass emissions of VOC, expressed as lb/yr;

B. Moderate WAV has a vapor pressure greater than seventy-five (75) mmHg but less than or equal to one hundred fifty (150) mmHg at twenty degrees Celsius (20 °C), and shall use the following equation:

FR = [0.031 (UTAME)] - 494

C. High WAV has a vapor pressure greater than one hundred fifty (150) mmHg at twenty degrees Celsius (20 °C), and shall use the following equation:

FR = [0.013 (UTAME)] - 301

3. To determine the vapor pressure of VOC, the applicable methods and procedures in section (5) of this rule shall apply.

(F) In the event that other rules in Title 10 Division 10 of the *Code of State Regulations* are also applicable to batch process operations, the more stringent rule shall apply.

(2) Definitions.

(A) Batch—A discontinuous process involving the bulk movement of material through sequential manufacturing steps, typically characterized as non-steady-state.

(B) Batch cycle—A manufacturing event of an intermediate or product from start to finish in a batch process.

(C) Batch process operation—A discontinuous operation in which a discrete quantity or batch of feed is charged into a chemical manufacturing process unit and distilled or reacted, or otherwise used at one time, and may include, but is not limited to, reactors, filters, dryers, distillation columns, extractors, crystallizers, blend tanks, neutralizer tanks, digesters, surge tanks and product separators. After each batch process operation, the equipment is generally emptied before a fresh batch is started.

(D) Batch process train—The collection of equipment (e.g., reactors, filters, dryers, distillation columns, extractors, crystallizers, blend tanks, neutralizer tanks, digesters, surge tanks and product separators) configured to produce a product or

intermediate by a batch process operation. A batch process train terminates at the point of storage of the product or intermediate being produced in the batch process train. Irrespective of the product being produced, a batch process train which is independent of other processes shall be considered a single batch process train for purposes of this rule.

(E) Control devices—Air pollution abatement devices. For purposes of this rule, condensers operating under reflux conditions are not considered control devices.

(F) Emission events—Discrete venting episodes that may be associated with a single unit of operation.

(G) Processes—Any equipment within a contiguous area that are connected together during the course of a year where connected is defined as a link between equipment, whether it is physical, such as a pipe, or whether it is next in a series of steps from which material is transferred from one unit operation to another.

(H) Unit operations—Discrete processing steps that occur within distinct equipment that are used to prepare reactants, facilitate reactions, separate and purify products, and recycle materials.

(I) Vent—A point of emission from a unit operation. Typical process vents from batch processes include condenser vents, vacuum pumps, steam ejectors, and atmospheric vents from reactors and other process vessels. Vents also include relief valve discharges. Equipment exhaust systems that discharge from unit operations also would be considered process vents.

(J) Volatile organic compound (VOC)—The definition for this term can be found in 10 CSR 10-6.020.

(K) Volatility—For purposes of this rule, low volatility materials are defined as those which have a vapor pressure less than or equal to seventy-five (75) mmHg at twenty degrees Celsius (20 °C), moderate volatility materials have a vapor pressure greater than seventy-five (75) and less than or equal to one hundred fifty (150) mmHg at twenty degrees Celsius (20 °C), and high volatility materials have a vapor pressure greater than one hundred fifty (150) mmHg at twenty degrees Celsius (20 °C). To evaluate VOC volatility for single unit operations that service numerous VOCs or for processes handling multiple VOCs, the weighted average volatility can be calculated from knowing the total amount of each VOC used in a year, and the individual component vapor pressure, per the equation in paragraph (1)(E)1. of this rule.

(3) General Provisions.

(A) Every owner or operator of a single unit operation with an average flow rate, as determined in accordance with paragraph (3)(D)2. of this rule, below the flow rate value calculated by the applicability equations contained in subsection (1)(E) of this rule, shall reduce uncontrolled VOC emissions from that single unit operation by an overall efficiency, on an annual average, of at least ninety percent (90%), or twenty (20) ppmv, per batch cycle.

(B) Every owner or operator of a batch process train with an average flow rate, as determined in accordance with subparagraph (3)(D)2.B. of this rule, below the flow rate value calculated by the applicability equations contained in subsection (1)(E) of this rule, shall reduce uncontrolled VOC emissions from that batch

process train by an overall efficiency, on an annual average, of at least ninety percent (90%), or twenty (20) ppmv, per batch cycle. Any control device meeting the criteria in subsection (3)(C) of this rule is presumed to have a control efficiency of ninety percent (90%), or twenty (20) ppmv, per batch cycle, as applicable.

(C) Control Equipment Specifications.

1. If a boiler or process heater is used to comply with this rule section, the vent stream shall be introduced into the flame zone of the boiler or process heater. The boiler or process heater shall meet the control device requirements for boilers and process heaters included in 40 CFR 60.703, 60.704, and 60.705, as specified in [~~10 CSR 10-6.030(22)~~]**10 CSR 10-6.070(3)(A)1**.
2. If a flare is used to comply with this rule section, it shall comply with the requirements of 40 CFR 60.18, as specified in [~~10 CSR 10-6.030(22)~~]**10 CSR 10-6.070(3)(A)1**. If a process not subject to this rule vents an emergency relief discharge into a common flare header and causes the flare servicing the process subject to this rule to violate any of the provisions of 40 CFR 60.18, the flare will be temporarily exempt from those provisions. This exemption from flare specification requirements is only valid during the emergency relief venting discharge.
3. If an afterburner, scrubber, absorber, condenser, or adsorber is used to comply with this rule section, those equipment shall meet the control device requirements included in 40 CFR 60.703, 60.704, and 60.705, as specified in [~~10 CSR 10-6.030(22)~~]**10 CSR 10-6.070(3)(A)1**.
4. If an incinerator is used to comply with this rule section, the incinerator shall meet the control device requirements for incinerators included in 40 CFR 60.703, 60.704, and 60.705, as specified in [~~10 CSR 10-6.030(22)~~]**10 CSR 10-6.070(3)(A)1**.

(D) Determination of uncontrolled total annual mass emissions and actual weighted average flow rate values for batch process operations.

1. Uncontrolled total annual mass emissions shall be determined by the following methods:
   A. Direct process vent emissions measurements taken prior to any release to the atmosphere, following any recovery device and prior to any control device, provided these measurements conform with the requirements of measuring the mass flow rate of VOC incoming to the control device as in paragraph (5)(F)2. and subparagraphs (5)(F)3.A. and (5)(F)3.B. of this rule; or
   B. Engineering estimates of the uncontrolled VOC emissions from a process vent or process vents, in the aggregate, within a batch process train, using either the potential or permitted number of batch cycles per year or total production as represented in the source's operating permit.
      (I) Engineering estimates of the uncontrolled VOC emissions shall be based upon accepted chemical engineering principles, measurable process parameters, or physical or

chemical laws and their properties. Examples of methods include, but are not limited to, the following:

(a) Use of material balances based on process stoichiometry to estimate maximum VOC concentrations;

(b) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities; and

(c) Estimation of VOC concentrations based on saturation conditions.

(II) All data, assumptions, and procedures used in any engineering estimate shall be documented.

2. Average flow rate shall be determined by any of the following methods:

A. Direct process vent flow rate measurements taken prior to any release to the atmosphere, following any recovery device and prior to any control device, provided such measurements conform with the requirements of measuring incoming volumetric flow rate in paragraph (5)(F)2. of this rule;

B. Average flow rate for a single unit operation having multiple emission events or batch process trains shall be the weighted average flow rate, calculated as follows:

$$WAF = \frac{\sum_{i=1}^{n} (AFR_i \times ADE_i)}{\sum_{i=1}^{n} (ADE_i)}$$

where:

WAF = Actual weighted average flow rate for a single unit operation or batch process train;

AFR_i = Average flow rate per emission event;

ADE_i = Annual duration of emission event; and

n = Number of emission events.

For purposes of this formula, the term “emission event” shall be defined as a discrete period of venting that is associated with a single unit operation. For example, a displacement of vapor resulting from the charging of a single unit operation with VOC will result in a discrete emission event that will last through the duration of the charge and will have an average flow rate equal to the rate of the charge. The expulsion of expanded vapor space

when the single unit operation is heated is also an emission event. Both of these examples of emission events and others may occur in the same single unit operation during the course of the batch cycle. If the flow rate measurement for any emission event is zero, according to paragraph (5)(F)2. of this rule, then such event is not an emission event for purposes of this rule section; or

C. Engineering estimates calculated in accordance with the requirements in subparagraph (3)(E)1.B. of this rule.

3. For purposes of determining the average flow rate for steam vacuuming systems, the steam flow shall be included in the average flow rate calculation.

4. In cases where two (2) or more single unit operations share a process vent and where flow measurement for such single unit operations is difficult, alternate methods of flow measurement may be used only when approved by the department.

(4) Reporting and Record Keeping.

(A) Every owner or operator of a single unit operation or batch process train exempt under paragraph (1)(C)1. or (1)(C)2. of this rule shall keep records of the uncontrolled total annual mass emissions and documentation verifying these values or measurements. The documentation shall include the engineering calculations, any measurements made in accordance with section (5) of this rule, and the potential or permitted number of batch cycles per year, or, in the alternative, total production as represented in the facility's operating permit.

(B) Every owner or operator of a single unit operation exempt under subsection (1)(D) of this rule shall keep the following records:

1. The uncontrolled total annual mass emissions and documentation verifying these values or measurements. The documentation shall include any engineering calculations, any measurements made in accordance with section (5) of this rule, and the potential or permitted number of batch cycles per year or, in the alternative, total production as represented in the source's operating permit; and

2. The average flow rate in standard cubic feet per minute (scfm) and documentation verifying this value.

(C) Every owner or operator of a batch process operation subject to the control requirements of section (3) of this rule shall keep records of the following parameters required to be monitored under subsection (4)(H) of this rule:

1. If using a thermal or catalytic afterburner to comply with section (3) of this rule, records indicating the average combustion chamber temperature of the afterburner or the average temperature upstream and downstream of the catalyst bed for a catalytic afterburner, measured continuously and averaged over the same time period as the performance test;

2. If using a flare to comply with section (3) of this rule, continuous records of the flare pilot flame monitoring and records of all periods of operations during which the pilot flame is absent; or

3. If using any of the following as a control device, the following records:

A. Where a scrubber is used, the exit specific gravity or alternative parameter which is a measure of the degree of absorbing liquid saturation, if approved by the department, and the average exit temperature of the absorbing liquid, measured continuously and averaged over the same time period as the performance test both measured while the vent stream is routed normally;

B. Where a condenser is used, the average exit or product side temperature measured continuously and averaged over the same time period as the performance test while the vent stream is routed normally;

C. Where a carbon adsorber is used, the total steam mass flow measured continuously and averaged over the same time period as the performance test full carbon bed cycle, temperature of the carbon bed after regeneration and within fifteen (15) minutes after completion of any cooling cycle(s), and duration of the carbon bed steaming cycle all measured while the vent stream is routed normally; or

D. As an alternative to subparagraphs (4)(C)3.A., (4)(C)3.B., or (4)(C)3.C. of this rule, at a minimum, records indicating the concentration level or reading indicated by the VOC monitoring device at the outlet of the scrubber, condenser, or carbon adsorber, measured continuously and averaged over the same time period as the performance test while the vent stream is routed normally.

(D) Every owner or operator of a single unit operation claiming a vent stream concentration exemption level shall maintain records to indicate the vent stream concentration is less than or equal to five hundred (500) ppmv, and shall notify the department in writing if the vent stream concentration at any time equals or exceeds five hundred (500) ppmv, within sixty (60) days after such event. Such notification shall include a copy of all records of such event.

(E) An owner or operator of a batch process operation subject to the control requirements of section (3) of this rule may maintain alternative records other than those listed in subsection (4)(C) of this rule. Any alternative record keeping shall be approved by the department and shall be contained in the source's operating permit as federally enforceable permit conditions.

(F) The owner or operator of a single unit operation or batch process train exempt from the control requirements of section (3) of this rule shall notify the department in writing if the uncontrolled total annual mass emissions exceed the threshold in paragraph (1)(C)1. or (1)(C)2. of this rule, respectively, within sixty (60) days after the event occurs. This notification shall include a copy of all records of the event.

(G) All records required under this rule section shall be maintained on-site for at least five (5) years and made available to the department immediately upon request.

(H) Monitoring Requirements.

1. Every owner or operator using an afterburner to comply with section (3) of this rule shall install, calibrate, maintain, and operate, according to manufacturer's specifications, temperature monitoring devices with an

accuracy of plus or minus one percent (± 1%) of the temperature being measured expressed in degrees Celsius, equipped with continuous recorders.

A. Where a catalytic afterburner is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

B. Where an afterburner other than a catalytic afterburner is used, a temperature monitoring device shall be installed in the combustion chamber.

2. Every owner or operator using a flare to comply with section (3) of this rule, shall install, calibrate, maintain, and operate, according to manufacturer's specifications, a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light to indicate continuous presence of a flame.

3. Every owner or operator using a scrubber to comply with section (3) of this rule shall install, calibrate, maintain, and operate, according to manufacturer's specifications, the following:

A. A temperature monitoring device for scrubbant liquid having an accuracy of plus or minus one percent (± 1%) of the temperature being monitored expressed in degrees Celsius and a specific gravity device for scrubbant liquid, each equipped with a continuous recorder; or

B. A VOC monitoring device used to indicate the concentration of VOC exiting the control device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

4. Every owner or operator using a condenser to comply with section (3) of this rule shall install, calibrate, maintain, and operate, according to manufacturer's specifications, the following:

A. A condenser exit temperature monitoring device equipped with a continuous recorder and having an accuracy of plus or minus one percent (± 1%) of the temperature being monitored expressed in degrees Celsius; or

B. A VOC monitoring device used to indicate the concentration of VOC such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

5. Every owner or operator using a carbon adsorber to comply with this rule shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, the following equipment:

A. An integrating regeneration stream flow monitoring device having an accuracy of plus or minus ten percent (± 10%), and a carbon bed temperature monitoring device having an accuracy of plus or minus one percent (± 1%) of the temperature being monitored expressed in degrees Celsius, both equipped with a continuous recorder; or

B. A VOC monitoring device used to indicate the concentration level

of VOC exiting the device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

6. Every owner or operator using a boiler or process heater with a design heat input capacity less than forty-four (44) megawatts to comply with section (3) of this rule shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a temperature monitoring device in the firebox with an accuracy of plus or minus one percent (± 1%) of the temperature being measured expressed in degrees Celsius, equipped with a continuous recorder. Any boiler or process heater in which all process vent streams are introduced with primary fuel is exempt from this requirement.
7. The owner or operator of a process vent shall be permitted to monitor by an alternative method or may monitor parameters other than those listed in paragraphs (4)(I)1. through (4)(I)6. of this rule, if approved by the department. The alternative method or parameters shall be contained in the source's operating permit as federally enforceable permit conditions.

(5) Test Methods.

(A) Upon the department's request, the owner or operator of a batch process operation shall conduct testing to demonstrate compliance with section (3) of this rule. The owner or operator shall, at its own expense, conduct these tests in accordance with the applicable test methods and procedures specified in subsections (5)(D), (5)(E), and (5)(F) of this rule.

(B) Notwithstanding subsection (5)(A) of this rule, flares and process boilers used to comply with control requirements of section (3) of this rule shall be exempt from performance testing requirements.

(C) When a flare is used to comply with the control requirements of section (3) of this rule, the flare shall comply with the requirements of 40 CFR 60.18, as specified in [~~10 CSR 10-6.030(22)~~]**10 CSR 10-6.070(3)(A)1**.

(D) The owner or operator of a batch process operation that is exempt from the control requirements of section (3) of this rule shall demonstrate, upon the department's request, the absence of oversized gas moving equipment in any manifold. Gas moving equipment shall be considered oversized if it exceeds the maximum requirements of the exhaust flow rate by more than thirty percent (30%).

(E) For the purpose of demonstrating compliance with the control requirements in section (3) of this rule, the batch process operation shall be run at representative operating conditions and flow rates during any performance test.

(F) The following methods in 40 CFR 60, Appendix A, as specified in 10 CSR 10-6.030(22), shall be used to demonstrate compliance with the reduction efficiency requirement in section (3) of this rule:

1. Method 1 or 1A, as appropriate, for selection of the sampling sites if the flow measuring device is not a rotameter. The control device inlet sampling site for determination of vent stream VOC composition reduction efficiency shall be prior to the control device and after the

control device;

2. Method 2, 2A, 2C, 2D, 2F, 2G, or 2H as appropriate, for determination of gas stream volumetric flow rate flow measurements, which shall be taken continuously. No traverse is necessary when the flow measuring device is an ultrasonic probe; and
3. Method 25A or Method 18, if applicable, to determine the concentration of VOC in the control device inlet and outlet, where—
   A. The sampling time for each run shall be as follows:
      (I) For batch cycles less than eight (8) hours in length, appropriate operating parameters shall be recorded at a minimum of fifteen (15)-minute intervals during the batched period;
      (II) For batch cycles of eight (8) hours and greater in length, the owner or operator may either test in accordance with the test procedures defined in part (5)(F)3.A.(I) of this rule or the owner or operator may elect to perform tests, pursuant to either Method 25A or Method 18, only during those portions of each emission event which profiles a representative sample occurring within the batch cycle. For each emission event of less than four (4) hours in duration, the owner or operator shall test continuously over the entire emission event as in part (5)(F)3.A.(I) of this rule. For each emission event of greater than four (4) hours in duration, the owner or operator shall elect either to perform a minimum of three (3) one-hour test runs during the emission event or shall test continuously over the entire emission event within each single unit operation in the batch process train. The owner or operator shall define the total batch process by all its intrinsic emission events. To demonstrate that the portion of the emission event to be tested profiles a representative sample occurring within the batch cycle, the owner or operator electing to rely on this option shall develop an emission profile for each entire emission event. These emission profiles shall be based upon either process knowledge or test data collected. Examples of information that could constitute process knowledge include, but are not limited to, calculations based on material balances, duration, emission levels, constituents, reactants, byproducts, and process stoichiometry. Previous test results may be used provided the results are still relevant to the current process vent stream conditions; or
      (III) For purposes of paragraph (5)(F)3. of this rule, the term “emission event” means a discrete period of venting that is associated with a single unit operation. For example, a displacement of vapor resulting from the charging of a

single unit operation with VOC will result in a discrete emission event that will last through the duration of the charge and will have an average flow rate equal to the rate of the charge. The expulsion of expanded single unit operation vapor space when the vessel is heated is also an emission event. Both of these examples of emission events and others may occur in the same single unit operation during the course of the batch cycle. If the flow rate measurement for any emission event is zero (0), in accordance with paragraph (5)(F)2. of this rule, then this event is not an emission event for purposes of this rule section;

B. Calculate the mass emission rate (MER_i) into the control device as follows:
$MER_i = C_iQ_i$
where:
C_i = concentration into the control device; and
Q_i = flow rate into the control device;

C. Calculate the mass emission rate (MER_o) out of the control device as follows:
$MER_o = C_oQ_o$
where:
C_o = concentration out of the control device; and
Q_o = flow rate out of the control device; and

D. Calculate the total overall control device efficiency (η) as follows:
$\eta = (MER_i - MER_o)/MER_i$

(G) Upon request by the department to conduct testing, an owner or operator of a batch process operation which has installed a scrubber, a shell and tube condenser using a nonrefrigerated cooling media, or any other control device which meets the criteria of subsection (3)(C) of this rule, shall demonstrate that the device achieves the control efficiency applicable within section (3) of this rule.

(H) The owner or operator of a batch process operation may propose an alternative test method or procedures to demonstrate compliance with the control requirements in section (3) of this rule. Alternative methods or procedures may only be used after they are approved by the department.

(I) In the absence of a request by the department to conduct performance testing in accordance with the provisions of this rule section, a source may demonstrate compliance by the use of engineering estimates or process stoichiometry.

AUTHORITY: section 643.050, RSMo 2016. Original rule filed July 15, 1999, effective Feb. 29, 2000. Amended: Filed May 9, 2018, effective Feb. 28, 2019. Amended: Filed Nov. 12, 2019.

PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars ($500) in the aggregate.

PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars ($500) in the aggregate.

NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS: A public hearing on this proposed amendment will begin at 9:00 a.m., January 30, 2020. The public hearing will be held at the Elm Street Conference Center, 1730 East Elm Street, Lower Level, Bennett Springs Conference Room, Jefferson City, Missouri. Opportunity to be heard at the hearing shall be afforded to any interested person. Interested persons, whether or not heard, may submit a statement of their views until 5:00 p.m., February 6, 2020. Send online comments via the proposed rules web page www.dnr.mo.gov/proposed-rules, email comments to apcprulespn@dnr.mo.gov, or written comments to Chief, Air Quality Planning Section, Missouri Department of Natural Resources' Air Pollution Control Program, PO Box 176, Jefferson City, MO 65102-0176.