



---

---

**Rules of**  
**Department of Natural Resources**  
**Division 10—Air Conservation Commission**  
**Chapter 2—Air Quality Standards and**  
**Air Pollution Control Rules Specific**  
**to the Kansas City Metropolitan Area**

| <b>Title</b>  | <b>Page</b> |
|---|-------------|
| <b>10 CSR 10-2.010</b> Ambient Air Quality Standards (Rescinded February 11, 1978) .....  | 3           |
| <b>10 CSR 10-2.020</b> Definitions (Rescinded February 11, 1978) .....  | 3           |
| <b>10 CSR 10-2.030</b> Restriction of Emission of Particulate Matter From Industrial Processes<br>(Rescinded March 30, 2001) .....          | 3           |
| <b>10 CSR 10-2.040</b> Maximum Allowable Emission of Particulate Matter From Fuel Burning<br>Equipment Used for Indirect Heating .....      | 3           |
| <b>10 CSR 10-2.050</b> Preventing Particulate Matter From Becoming Airborne<br>(Rescinded September 28, 1990) .....                         | 4           |
| <b>10 CSR 10-2.060</b> Restriction of Emission of Visible Air Contaminants<br>(Rescinded May 30, 2000) .....                                | 4           |
| <b>10 CSR 10-2.070</b> Restriction of Emission of Odors (Rescinded November 30, 2010) .....   | 4           |
| <b>10 CSR 10-2.080</b> Emission of Visible Air Contaminants From Internal Combustion Engines<br>(Rescinded November 30, 2002) .....         | 4           |
| <b>10 CSR 10-2.090</b> Incinerators (Rescinded December 9, 1991) .....  | 4           |
| <b>10 CSR 10-2.100</b> Open Burning Restrictions (Rescinded January 30, 2008) .....   | 4           |
| <b>10 CSR 10-2.110</b> Approval of Planned Installations Required (Rescinded April 11, 1980) .....  | 4           |
| <b>10 CSR 10-2.120</b> Measurement of Emissions of Air Contaminants (Rescinded April 9, 1992) .....   | 5           |
| <b>10 CSR 10-2.130</b> Submission of Emission Information (Rescinded November 12, 1984) .....   | 5           |
| <b>10 CSR 10-2.140</b> Circumvention (Rescinded September 28, 1990) .....   | 5           |
| <b>10 CSR 10-2.150</b> Time Schedule for Compliance (Rescinded December 30, 2008) .....   | 5           |
| <b>10 CSR 10-2.160</b> Restriction of Emission of Sulfur Compounds (Rescinded July 30, 1997) .....  | 5           |
| <b>10 CSR 10-2.170</b> Rules for Controlling Emissions During Periods of High Air<br>Pollution Potential (Rescinded October 11, 1984) ..... | 5           |



---

---

|                        |  |    |
|------------------------|--|----|
| <b>10 CSR 10-2.180</b> | Public Availability of Emission Data (Rescinded November 12, 1984) .....   | 5  |
| <b>10 CSR 10-2.190</b> | New Source Performance Regulations (Rescinded April 11, 1980) .....  | 5  |
| <b>10 CSR 10-2.200</b> | Restriction of Emission of Sulfur Compounds<br>From Indirect Heating Sources (Rescinded July 30, 1997).....                            | 5  |
| <b>10 CSR 10-2.205</b> | Control of Emissions From Aerospace Manufacture and Rework Facilities.....   | 5  |
| <b>10 CSR 10-2.210</b> | Control of Emissions From Solvent Metal Cleaning.....  | 10 |
| <b>10 CSR 10-2.215</b> | Control of Emissions from Solvent Cleanup Operations .....   | 14 |
| <b>10 CSR 10-2.220</b> | Liquefied Cutback Asphalt Paving Restricted .....  | 15 |
| <b>10 CSR 10-2.230</b> | Control of Emissions From Industrial Surface Coating Operations .....  | 15 |
| <b>10 CSR 10-2.240</b> | Restriction of Emissions of Volatile Organic Compounds<br>From Petroleum Refinery Sources (Rescinded November 23, 1987) .....          | 17 |
| <b>10 CSR 10-2.250</b> | Control of Volatile Leaks From Petroleum Refinery<br>Equipment (Rescinded November 23, 1987) .....                                     | 17 |
| <b>10 CSR 10-2.260</b> | Control of Petroleum Liquid Storage, Loading and Transfer.....   | 17 |
| <b>10 CSR 10-2.270</b> | Restriction of Emissions From Catalytic Cracking Units<br>(Rescinded November 23, 1987) .....  | 20 |
| <b>10 CSR 10-2.280</b> | Control of Emissions From Perchloroethylene<br>Dry Cleaning Installations (Rescinded January 30, 2003) .....                           | 20 |
| <b>10 CSR 10-2.290</b> | Control of Emissions From Rotogravure and Flexographic<br>Printing Facilities.....   | 20 |
| <b>10 CSR 10-2.300</b> | Control of Emissions From the Manufacturing of Paints, Varnishes, Lacquers,<br>Enamels and Other Allied Surface Coating Products ..... | 21 |
| <b>10 CSR 10-2.310</b> | Control of Emissions From the Application of Automotive<br>Underbody Deadeners.....  | 22 |
| <b>10 CSR 10-2.320</b> | Control of Emissions From Production of Pesticides and Herbicides.....   | 22 |
| <b>10 CSR 10-2.330</b> | Control of Gasoline Reid Vapor Pressure .....  | 23 |
| <b>10 CSR 10-2.340</b> | Control of Emissions From Lithographic Printing Installations.....   | 24 |
| <b>10 CSR 10-2.360</b> | Control of Emissions From Bakery Ovens .....   | 25 |
| <b>10 CSR 10-2.385</b> | Control of Heavy Duty Diesel Vehicle Idling Emissions.....   | 26 |
| <b>10 CSR 10-2.390</b> | Kansas City Area Transportation Conformity Requirements .....  | 27 |



**Title 10—DEPARTMENT OF  
NATURAL RESOURCES**

**Division 10—Air Conservation  
Commission**

**Chapter 2—Air Quality Standards and  
Air Pollution Control Rules  
Specific to the Kansas City  
Metropolitan Area**

**10 CSR 10-2.010 Ambient Air Quality  
Standards**

(Rescinded February 11, 1978)

*AUTHORITY: section 203.050, RSMo 1969. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed March 26, 1970, effective April 5, 1970. Rescinded: Filed Sept. 1, 1977, effective Feb. 11, 1978.*

**10 CSR 10-2.020 Definitions**

(Rescinded February 11, 1978)

*AUTHORITY: section 203.050, RSMo 1969. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed March 26, 1970, effective April 5, 1970. Rescinded: Filed Sept. 1, 1977, effective Feb. 11, 1978.*

**10 CSR 10-2.030 Restriction of Emission of  
Particulate Matter From Industrial Pro-  
cesses**

(Rescinded March 30, 2001)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed June 30, 1975, effective July 9, 1975. Amended: Filed March 15, 1979, effective Nov. 11, 1979. Amended: Filed July 16, 1979 effective Feb. 11, 1980. Amended: Filed Oct. 13, 1983, effective March 12, 1984. Rescinded: Filed Aug. 4, 2000, effective March 30, 2001.*

*Op. Atty. Gen. No. 331, Shell, 11-15-71. The Missouri Air Conservation Commission has the authority under Chapter 203, RSMo 1969 and the Constitution of Missouri to enforce without delay the provisions of Chapter 203, RSMo 1969 and standards and regulations, through administrative procedures and injunctive relief.*

**10 CSR 10-2.040 Maximum Allowable  
Emission of Particulate Matter From Fuel  
Burning Equipment Used for Indirect  
Heating**

*PURPOSE: This rule tightens the emission limitations on indirect heating sources, differentiates between new and existing sources*

*and changes the method of compliance determination allowing for easier enforcement of the rule.*

(1) General Provisions.

(A) This rule applies to installations which have indirect heating sources.

(B) The heat content of solid fuels shall be determined as specified in 10 CSR 10-6.040(2). The heat content of liquid hydrocarbon fuels shall be determined as specified in 10 CSR 10-6.040(3).

(C) The heat input used for each indirect heating source shall be the equipment manufacturer's or designer's guaranteed maximum input in millions of British Thermal Units (BTUs) per hour, whichever is greater.

(D) The amount of particulate matter emitted shall be determined as specified in 10 CSR 10-6.030(5).

(E) For the purpose of this rule only, the following terms shall have the meaning ascribed:

1. Existing—means any source which was in being, installed or under construction on February 15, 1979, except that if any source subsequently is altered, repaired or rebuilt at a cost of thirty percent (30%) or more of its replacement cost, exclusive of routine maintenance, it shall no longer be existing, but shall be considered as new; and

2. New—means any source which is not an existing source, as defined in paragraph (1)(E)1.

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

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

(2) Maximum Allowable Particulate Emission Rate (ER) From Existing Indirect Heating Sources.

(A) The total heat input of all existing indirect heating sources within an installation shall be used to determine the maximum allowable particulate ER, which is to be applied to each existing indirect heating source within the installation. After that, each indirect heating source within the installation shall be tested and considered independently for compliance with this rule.

(B) Emission Limitations.

1. The maximum allowable particulate ER for an installation of existing indirect heating sources with a heat input rate of less than ten (10) million BTUs per hour shall be 0.60 pounds per million BTUs of heat input.

2. The maximum allowable particulate ER for an installation of existing indirect heating sources with a heat input rate equal to or greater than ten (10) million BTUs per hour and less than or equal to five thousand (5000) million BTUs per hour shall be determined by the following equation:

$$E = 1.09(Q)^{-0.259}$$

where

E = the maximum allowable particulate ER in pounds per million BTU of heat input, rounded off to two (2) decimal places; and  
Q = the installation heat input in millions of BTU per hour.

3. The maximum allowable particulate ER for an installation of existing indirect heating sources with a heat input rate greater than five thousand (5000) million BTUs per hour shall be 0.12 pounds per million BTUs of heat input.

(3) Maximum Allowable Particulate ER From New Indirect Heating Sources.

(A) The total heat input of all new and existing indirect heating sources within an installation shall be used to determine the maximum allowable particulate ER which is to be applied to each new indirect heating source within the installation. The maximum allowable particulate ER from the existing indirect heating sources within an installation shall be determined as specified by section (2). After that, each indirect heating source within the installation shall be tested and considered independently for compliance with this rule.

(B) Emission Limitations.

1. The maximum allowable particulate ER for new sources in an installation of indirect heating sources with a heat input rate of less than ten (10) million BTUs per hour shall be 0.40 pounds per million BTUs of heat input.

2. The maximum allowable particulate ER for new sources in an installation of indirect heating sources with a heat input rate equal to or greater than ten (10) million BTUs per hour and less than or equal to one thousand (1000) million BTUs per hour shall be determined by the following equation:

$$E = 0.80(Q)^{-0.301}$$

where

E = the maximum allowable particulate ER in pounds per million BTUs of heat input, rounded off to two (2) decimal places; and  
Q = the installation heat input in millions of BTUs per hour.

3. The maximum allowable particulate ER for new sources in an installation of indirect heating sources with a heat input rate



greater than one thousand (1000) million BTUs per hour shall be 0.10 pounds per million BTUs of heat input.

(4) Compliance with this rule shall be accomplished by any installation as expeditiously as practicable, but in no case shall final compliance extend beyond three (3) years (March 25, 1983) from the effective date of this rule (March 25, 1980). In the interim, each installation shall meet the allowable particulate ER applicable to that installation on October 25, 1978.

(5) Alternate Method of Compliance.

(A) Compliance with this rule also may be demonstrated if the weighted average ER of two (2) or more indirect heating sources is less than or equal to the maximum allowable particulate ER determined in section (2) or (3).

1. The weighted average ER for the indirect heating sources to be averaged shall be calculated by the following formula:

$$WAER = \frac{\sum_{i=1}^n (ER_i \cdot Q_i)}{\sum_{i=1}^n Q_i}$$

where  
WAER = the weighted average ER in pounds per million BTUs;  
ER<sub>i</sub> = the actual ER of the i<sup>th</sup> indirect heating source in pounds per million BTUs;  
Q<sub>i</sub> = the rated heat input of the i<sup>th</sup> indirect heating source in millions of BTUs per hour; and  
n = the number of indirect heating sources in the average.

(B) Installations demonstrating compliance with this rule in accordance with the requirements of section (6) shall do so by making written application to the director. The application shall include the calculations performed in subsection (5)(A) and all necessary information relative to making this demonstration. After written approval by the director, the ER used in the calculations of subsection (5)(A) shall become the maximum allowable particulate ER for each specified indirect heating source under this rule.

(C) This section (5) only shall apply—

1. To indirect heating sources while burning coal; and

2. If the maximum allowable particulate ER determined in subsection (5)(B) for each indirect heating source does not exceed the

maximum allowable particulate ER determined for that source from section (2) or (3) of this rule using the rated heat input, Q<sub>i</sub>, for that individual indirect heating source as if that individual indirect heating source was the only source at the installation.

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed March 2, 1972, effective March 12, 1972. Rescinded and readopted: Filed Aug. 11, 1978, effective Feb. 11, 1979. Amended: Filed March 14, 1984, effective Sept. 14, 1984.*

**10 CSR 10-2.050 Preventing Particulate Matter From Becoming Airborne**  
(Rescinded September 28, 1990)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed Dec. 27, 1971, effective Jan. 6, 1972. Amended: Filed June 30, 1975, effective July 9, 1975. Amended: Filed May 11, 1984, effective Oct. 11, 1984. Rescinded: Filed March 5, 1990, effective Sept. 28, 1990.*

**10 CSR 10-2.060 Restriction of Emission of Visible Air Contaminants**  
(Rescinded May 30, 2000)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed April 5, 1972, effective April 15, 1972. Amended: Filed Jan. 15, 1977, effective July 11, 1977. Amended: Filed July 16, 1979, effective Feb. 11, 1980. Rescinded: Filed Sept. 15, 1999, effective May 30, 2000.*

**10 CSR 10-2.070 Restriction of Emission of Odors**  
(Rescinded November 30, 2010)

*AUTHORITY: section 643.050, RSMo 2000. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed March 26, 1970, effective April 5, 1970. Amended: Filed Aug. 15, 1983, effective Jan. 13, 1984. Amended: Filed Nov. 2, 1998, effective July 30, 1999. Amended: Filed Feb. 14, 2003, effective Sept. 30, 2003. Amended: Filed Dec. 4, 2006, effective July 30, 2007. Rescinded: Filed April 14, 2010, effective Nov. 30, 2010.*

**10 CSR 10-2.080 Emission of Visible Air Contaminants From Internal Combustion Engines**

(Rescinded November 30, 2002)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Rescinded: Filed Feb. 28, 2002, effective Nov. 30, 2002.*

*Op. Atty. Gen. No. 331, Shell, 11-15-71. The state of Missouri has the authority to inspect for "air pollution control devices" which may be installed on motor vehicles as a requirement to comply with applicable emission regulations but whether regulations and inspections would accomplish the purpose of "enforcing compliance with applicable emission standards" which are federal standards and whether the preemption provision of 42 USCA, Section 1857f-6a has been complied with are questions that only the appropriate federal officials can answer. The Missouri Air Conservation Commission has the authority under Chapter 203, RSMo (1969) to adopt emission control regulations, including limitations on the content of fuels, which will attain and maintain national air quality standards, if the state standards are the same or more stringent.*

**10 CSR 10-2.090 Incinerators**  
(Rescinded December 9, 1991)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1964. Amended: Filed Dec. 15, 1982, effective May 12, 1983. Amended: Filed Oct. 13, 1983, effective March 12, 1984. Rescinded: Filed May 20, 1991, effective Dec. 9, 1991.*

**10 CSR 10-2.100 Open Burning Restrictions**  
(Rescinded January 30, 2008)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed March 2, 1972, effective March 12, 1972. Amended: Filed Feb. 13, 1979, effective July 12, 1979. Amended: Filed Aug. 13, 1982, effective Jan. 13, 1983. Amended: Filed Nov. 9, 1983, effective April 12, 1984. Rescinded: Filed June 7, 2007, effective Jan. 30, 2008.*

**10 CSR 10-2.110 Approval of Planned Installations Required**  
(Rescinded April 11, 1980)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed Dec. 26, 1968, effective*



Jan. 5, 1969. Amended: Filed Dec. 27, 1971, effective Jan. 6, 1972. Amended: Filed Aug. 25, 1972, effective Sept. 4, 1972. Amended: Filed Aug. 16, 1977, effective Feb. 11, 1978. Rescinded: Filed Dec. 10, 1979, effective April 11, 1980.

*Op. Atty. Gen. No. 218, Shell, 8-21-73. The Missouri Air Conservation Commission does not have the authority under Chapter 203, RSMo to prevent the construction of “complex sources” when it is determined that such sources may indirectly cause ambient air quality standards to be violated.*

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

**10 CSR 10-2.120 Measurement of Emissions of Air Contaminants**  
(Rescinded April 9, 1992)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Rescinded: Filed Oct. 15, 1991, effective April 19, 1992.*

**10 CSR 10-2.130 Submission of Emission Information**  
(Rescinded November 12, 1984)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed Aug. 25, 1972, effective Sept. 4, 1972. Rescinded: Filed June 13, 1984, effective Nov. 12, 1984.*

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

**10 CSR 10-2.140 Circumvention**  
(Rescinded September 28, 1990)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Rescinded: Filed April 18, 1990, Sept. 28, 1990.*

**10 CSR 10-2.150 Time Schedule for Compliance**  
(Rescinded December 30, 2008)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Dec. 26, 1968, effective Jan. 5, 1969. Amended: Filed March 26, 1970, effective April 5, 1970. Rescinded: Filed April 17, 2008, effective Dec. 30, 2008.*

**10 CSR 10-2.160 Restriction of Emission of Sulfur Compounds**  
(Rescinded July 30, 1997)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed March 24, 1971, effective April 3, 1971. Amended: Filed Oct. 14, 1977, effective March 11, 1978. Rescinded: Filed Dec. 13, 1996, effective July 30, 1997.*

**10 CSR 10-2.170 Rules for Controlling Emissions During Periods of High Air Pollution Potential**  
(Rescinded October 11, 1984)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed March 24, 1971, effective April 3, 1971. Amended: Filed Dec. 27, 1971, effective Jan. 6, 1972. Rescinded: Filed May 11, 1984, effective Oct. 11, 1984.*

**10 CSR 10-2.180 Public Availability of Emission Data**  
(Rescinded November 12, 1984)

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

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

**10 CSR 10-2.190 New Source Performance Regulations**  
(Rescinded April 11, 1980)

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

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

**10 CSR 10-2.200 Restriction of Emission of Sulfur Compounds From Indirect Heating Sources**  
(Rescinded July 30, 1997)

*AUTHORITY: section 203.050, RSMo 1986. Original rule filed Oct. 14, 1977, effective March 11, 1978. Rescinded: Filed Dec. 13, 1996, effective July 30, 1997.*

**10 CSR 10-2.205 Control of Emissions From Aerospace Manufacture and Rework Facilities**

*PURPOSE: This rulemaking will reduce volatile organic compound emissions from aerospace manufacture and/or rework facilities located in the Kansas City ozone maintenance area. This rulemaking is required to comply with the Clean Air Act Amendments of 1990. The RSMo 536.016 requirement for necessity evidence is the Kansas City Ozone Maintenance Plan adopted February 3, 1998, and Section 182 of the Clean Air Act.*

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

(1) Applicability.

(A) This rulemaking shall apply throughout Platte, Clay, and Jackson Counties.

(B) The requirements of this rulemaking shall apply to all aerospace manufacture and/or rework facilities with potential emissions of



volatile organic compounds (VOC) exceeding twenty-five (25) tons per year.

(2) Definitions.

(A) Definitions of individual specialty coatings specified in this rule are incorporated by reference from 40 CFR 63 Subpart GG, Appendix A, with the following modifications:

1. Mold release—A coating applied to a mold surface to prevent the mold piece from sticking to the mold as it is removed, or to an aerospace component for purposes of creating a form-in-place seal.

2. Caulking and smoothing compound—A semi-solid material that is used to aerodynamically smooth exterior vehicle surfaces or fill cavities such as bolt hole accesses. A material shall not be classified as a caulking and smoothing compound if it can be classified as a sealant.

(B) Aerospace manufacture and/or rework facility—Any installation that produces, reworks, or repairs in any amount any commercial, civil, or military aerospace vehicle or component.

(C) Aerospace vehicle or component—Any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft.

(D) Antique aerospace vehicle or component—An aircraft or component thereof that was built at least thirty (30) years ago. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.

(E) Aqueous cleaning solvent—A cleaning solution in which water is the primary ingredient (greater than eighty percent (80%) by weight of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzyme mixtures and nutrients may be combined with the water along with a variety of additives such as organic solvents (e.g. high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than ninety-three degrees Celsius (93°C) (two hundred degrees Fahrenheit (200°F)) (as reported by the manufacturer) and the solution must be miscible with water.

(F) Chemical milling maskants—A coating that is applied directly to aluminum components to protect surface areas when chemical milling the component with a Type I or Type II etchant. Type I chemical milling maskants are used with a Type I etchant and Type II chemical milling maskants are used with a Type II etchant. This definition does not include bonding maskants, critical use and line sealer maskants, and seal coat maskants.

Maskants that must be used with a combination of Type I or Type II etchants and any of the above types of maskants are also not included in this definition.

(G) Energized electrical systems—Any AC or DC electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells, and tail sections.

(H) Flush cleaning—The removal of contaminants such as dirt, grease, and coatings from an aerospace vehicle or component or coating equipment by passing solvent over, into, or through the item being cleaned. The solvent may simply be poured into the item cleaned and then drained, or be assisted by air or hydraulic pressure, or by pumping. Hand-wipe cleaning operations where wiping, scrubbing, mopping, or other hand actions are used are not included in this definition.

(I) General aviation—Segment of civil aviation that encompasses all facets of aviation except air carriers, commuters, and military. General aviation includes charter and corporate-executive transportation, instruction, rental, aerial application, aerial observation, business, pleasure, and other special uses.

(J) General aviation rework facility—Any aerospace installation with the majority of its revenues resulting from the reconstruction, repair, maintenance, repainting, conversion, or alteration of general aviation aerospace vehicles or components.

(K) High volume low pressure (HVLP) spray equipment—Spray equipment that is used to apply coating by means of spray gun that operates at ten pounds per square inch gauge (10 psig) of atomizing air pressure or less at the air cap.

(L) Low vapor pressure hydrocarbon-based cleaning solvent—A cleaning solvent that is composed of a mixture of photochemically reactive hydrocarbons and oxygenated hydrocarbons and has a maximum vapor pressure of seven millimeters of mercury (7 mmHg) at twenty degrees Celsius (20°C). These cleaners must not contain hazardous air pollutants.

(M) Primer—The first layer and any subsequent layers of identically formulated coating applied to the surface of an aerospace vehicle or component. Primers are typically used for corrosion prevention, protection from the environment, functional fluid resistance, and adhesion of subsequent coatings. Primers that are defined as specialty coatings are not included under this definition.

(N) Self-priming topcoat—A topcoat that is applied directly to an uncoated aerospace vehicle or component for purposes of corrosion prevention, environmental protection, and function fluid resistance. More than one

(1) layer of identical coating formulation may be applied to the vehicle or component.

(O) Semi-aqueous cleaning solvent—A solution in which water is a primary ingredient (greater than sixty percent (60%) by weight of the solvent solution as applied must be water).

(P) Specialty coating—A coating that, even though it meets the definition of a primer, topcoat, or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats, and self-priming topcoats for specific applications. These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection.

(Q) Topcoat—A coating that is applied over a primer on an aerospace vehicle or component for appearance, identification, camouflage, or protection. Topcoats that are defined as specialty coatings are not included under this definition.

(R) Touch-up and repair operation—That portion of the coating operation that is the incidental application of coating used to cover minor imperfections in the coating finish or to achieve complete coverage. This definition includes out-of-sequence or out-of-cycle coating.

(S) Type I etchant—A chemical milling etchant that contains varying amounts of dissolved sulfur and does not contain amines.

(T) Type II etchant—A chemical milling etchant that is a strong sodium hydroxide solution containing amines.

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

(3) General Provisions.

(A) No person shall cause, permit, or allow the emissions of VOC from the coating of aerospace vehicles or components to exceed—

1. 2.9 pounds per gallon (350 grams per liter) of coating, excluding water and exempt solvents delivered to a coating applicator that applies primers. For general aviation rework facilities, the VOC limitation shall be 4.5 pounds per gallon of coating, excluding water and exempt solvents, delivered to a coating applicator that applies primers;

2. 3.5 pounds per gallon (420 grams per liter) of coating, excluding water and exempt solvents, delivered to a coating applicator that applies topcoats (including self-priming topcoats). For general aviation rework facilities, the VOC limit shall be 4.5 pounds per gallon (540 grams per liter) of coating, excluding



water and exempt solvents, delivered to a coating applicator that applies topcoats (including self-priming topcoats);

3. The VOC content limits listed in Table I expressed in pounds per gallon of coating, excluding water and exempt solvents delivered to a coating applicator that applies specialty coatings;

| <b>Table I: Specialty Coating VOC Limitations</b>                      | <b>Pounds per gallon</b> | <b>Grams per liter</b> |
|--|--------------------------|------------------------|
| Ablative Coating   | 5.0                      | 600                    |
| Adhesion Promoter  | 7.4                      | 890                    |
| Adhesive Bonding Primers:  |                          |                        |
| Cured at 250°F or below  | 7.1                      | 850                    |
| Cured above 250°F  | 8.6                      | 1030                   |
| Adhesives:   |                          |                        |
| Commercial Interior Adhesive   | 6.3                      | 760                    |
| Cyanoacrylate Adhesive   | 8.5                      | 1020                   |
| Fuel Tank Adhesive   | 5.2                      | 620                    |
| Nonstructural Adhesive   | 3.0                      | 360                    |
| Rocket Motor Bonding Adhesive  | 7.4                      | 890                    |
| Rubber-Based Adhesive  | 7.1                      | 850                    |
| Structural Autoclavable Adhesive                                       | 0.5                      | 60                     |
| Structural Nonautoclavable Adhesive                                    | 7.1                      | 850                    |
| Antichafe Coating  | 5.5                      | 660                    |
| Bearing Coating  | 5.2                      | 620                    |
| Caulking and Smoothing Compounds                                       | 7.1                      | 850                    |
| Chemical Agent-Resistant Coating                                       | 4.6                      | 550                    |
| Clear Coating  | 6.0                      | 720                    |
| Commercial Exterior Aerodynamic Structure Primer                       | 5.4                      | 650                    |
| Compatible Substrate Primer  | 6.5                      | 780                    |
| Corrosion Prevention Compound  | 5.9                      | 710                    |
| Cryogenic Flexible Primer  | 5.4                      | 645                    |
| Cryoprotective Coating   | 5.0                      | 600                    |
| Dry Lubricative Material   | 7.3                      | 880                    |
| Electric or Radiation-Effect Coating                                   | 6.7                      | 800                    |
| Electrostatic Discharge and Electromagnetic Interference (EMI) Coating | 6.7                      | 800                    |
| Elevated Temperature Skydrol Resistant Commercial Primer               | 6.2                      | 740                    |
| Epoxy Polyamide Topcoat  | 5.5                      | 660                    |
| Fire-Resistant (interior) Coating                                      | 6.7                      | 800                    |
| Flexible Primer  | 5.3                      | 640                    |
| Flight-Test Coatings:  |                          |                        |
| Missile or Single Use Aircraft   | 3.5                      | 420                    |
| All Others   | 7.0                      | 840                    |
| Fuel-Tank Coating  | 6.0                      | 720                    |
| High-Temperature Coating   | 7.1                      | 850                    |
| Insulation Covering  | 6.2                      | 740                    |
| Intermediate Release Coating   | 6.3                      | 750                    |
| Lacquer  | 6.9                      | 830                    |
| Maskant:   |                          |                        |
| Bonding Maskant  | 10.3                     | 1230                   |
| Critical Use and Line Sealer Maskant                                   | 8.5                      | 1020                   |
| Seal Coat Maskant  | 10.3                     | 1230                   |
| Metallized Epoxy Coating   | 6.2                      | 740                    |
| Mold Release   | 6.5                      | 780                    |
| Optical Anti-Reflective Coating  | 6.3                      | 750                    |
| Part Marking Coating   | 7.1                      | 850                    |
| Pretreatment Coating   | 6.5                      | 780                    |
| Rain Erosion-Resistant Coating   | 7.1                      | 850                    |
| Rocket Motor Nozzle Coating  | 5.5                      | 660                    |
| Scale Inhibitor  | 7.3                      | 880                    |
| Screen Print Ink   | 7.0                      | 840                    |
| Sealants:  |                          |                        |
| Extrudable/Rollable/Brushable Sealant                                  | 2.3                      | 280                    |
| Sprayable Sealant  | 5.0                      | 600                    |
| Silicone Insulation Material   | 7.1                      | 850                    |
| Solid Film Lubricant   | 7.3                      | 880                    |
| Specialized Function Coating   | 7.4                      | 890                    |
| Temporary Protective Coating   | 2.7                      | 320                    |
| Thermal Control Coating  | 6.7                      | 800                    |
| Wet Fastener Installation Coating                                      | 5.6                      | 675                    |
| Wing Coating   | 7.1                      | 850                    |



4. 5.2 pounds per gallon (620 grams per liter) of coating, excluding water and exempt solvents, delivered to a coating applicator that applies Type I chemical milling maskant; and

5. 1.3 pounds per gallon (150 grams per liter) of coating, excluding water and exempt solvents, delivered to a coating applicator that applies Type II chemical milling maskants.

(B) The emission limitations in subsection (3)(A) of this rule shall be achieved by—

1. The application of low solvent coating technology where each and every coating meets the specified applicable limitation expressed in pounds of VOC per gallon of coating, excluding water and exempt solvents, stated in subsection (3)(A) of this rule;

2. The application of low solvent coating technology where the monthly volume-weighted average VOC content of each specified coating type meets the specified applicable limitation expressed in pounds of VOC per gallon of coating, excluding water and exempt solvents, stated in subsection (3)(A) of this rule; averaging is not allowed for specialty coatings, and averaging is not allowed between primers, topcoats (including self-priming topcoats), Type I milling maskants, and Type II milling maskants or any combination of the above coating categories; or

3. Control equipment, including but not limited to incineration, carbon adsorption and condensation, with a capture system approved by the director, provided that the owner or operator demonstrates, in accordance with subsection (5)(C), that the control system has a VOC reduction efficiency of eighty-one percent (81%) or greater.

(C) Each owner or operator of an aerospace manufacturing and/or rework operation shall apply all non-exempt primers and topcoats using one (1) or more of the application techniques specified below—

1. Flow/curtain application;
2. Dip coat application;
3. Roll coating;
4. Brush coating;
5. Cotton-tipped swab application;
6. Electrodeposition (dip) coating;
7. HVLP spraying;
8. Electrostatic spray application; or
9. Other coating application methods that achieve emission reductions equivalent to HVLP or electrostatic spray application methods, as determined by the director.

(D) Each owner or operator of an aerospace manufacturing and/or rework operation shall ensure that all application devices used to apply primers and topcoats (including self-priming topcoats) are operated according to company procedures, local specified operating procedures, and/or the manufacturer's specifications, whichever is most stringent, at

all times. Equipment modified by the owner or operator shall maintain a transfer efficiency equivalent to HVLP or electrostatic spray application techniques.

(E) Each owner or operator of an aerospace manufacturing and/or rework operation shall comply with the following house-keeping requirements for any affected cleaning operation, unless the cleaning solvent used is an aqueous cleaning solvent, low vapor pressure hydrocarbon-based cleaning solvent, or contains less than one percent (1%) VOC by weight:

1. Solvent-laden cloth, paper, or any other absorbent applicators used for cleaning shall be placed in bags or other closed containers upon completing their use. These bags and containers must be kept closed at all times except when depositing or removing these materials from the container. The bags and containers used must be of such a design so as to contain the vapors of the cleaning solvent. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement;

2. All fresh and spent cleaning solvents, except semi-aqueous solvent cleaners, used in aerospace cleaning operations shall be stored in closed containers; and

3. The handling and transfer of cleaning solvent to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh spent cleaning solvents shall be conducted in such a manner that spills are minimized.

(F) Each owner or operator of an aerospace manufacturing and/or rework operation utilizing hand-wipe cleaning operations excluding the cleaning of spray gun equipment performed in accordance with subsection (3)(G) shall comply with one (1) of the following:

1. Utilize cleaning solvent solutions that are classified as an aqueous cleaning solvent and/or a low vapor pressure hydrocarbon-based cleaning solvent; or

2. Utilize cleaning solvent solutions that have a composite vapor pressure of forty-five (45) mmHg or less at twenty degrees Celsius (20°C).

(G) Each owner or operator of an aerospace manufacturing and/or rework operation shall clean all spray guns used in the application of primers, topcoats (including self-priming topcoats), and specialty coatings utilizing one or more of the following techniques:

1. Enclosed system. Spray guns shall be cleaned in an enclosed system that is closed at all times except when inserting or removing the spray gun. Cleaning shall consist of forcing cleaning solvent through the gun. If

leaks in the system are found, repairs shall be made as soon as practicable, but no later than fifteen (15) days after the leak was found. If the leak is not repaired by the fifteenth day after detection, the cleaning solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued;

2. Nonatomized cleaning. Spray guns shall be cleaned by placing cleaning solvent in the pressure pot and forcing it through the gun with the atomizing cap in place. No atomizing air is to be used. The cleaning solvent from the spray gun shall be directed into a vat, drum, or other waste container that is closed when not in use;

3. Disassembled spray gun cleaning. Spray guns shall be cleaned by disassembling and cleaning the components by hand in a vat, which shall remain closed at all times except when in use. Alternatively, the components shall be soaked in a vat, which shall remain closed during the soaking period and when not inserting or removing components; and

4. Atomizing cleaning. Spray guns shall be cleaned by forcing the cleaning solvent through the gun and directing the resulting atomized spray into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions.

(H) Each owner or operator of an aerospace manufacturing and/or rework operation that includes a flush cleaning operation shall empty the used cleaning solvents each time aerospace parts or assemblies, or components of a coating unit with the exception of spray guns are flush cleaned into an enclosed container or collection system that is kept closed when not in use or into a system with equivalent emission control approved by the director. Aqueous, semi-aqueous, and low vapor pressure hydrocarbon-based solvent materials are exempt from the requirements of this section.

(I) The following activities are exempt from this section:

1. Research and development;
2. Quality control;
3. Laboratory testing activities;
4. Chemical milling;
5. Metal finishing;
6. Electrodeposition except for the electrodeposition of paints;

7. Composites processing except for cleaning and coating of composite parts or components that become part of an aerospace vehicle or component as well as composite tooling that comes in contact with such composite parts or components prior to cure;





8. Electronic parts and assemblies except for cleaning and topcoating of completed assemblies;

9. Manufacture of aircraft transparencies;

10. Wastewater treatment operations;

11. Manufacturing and rework of parts and assemblies not critical to the vehicle's structural integrity or flight performance;

12. Regulated activities associated with space vehicles designed to travel beyond the limit of the earth's atmosphere, including but not limited to satellites, space stations, and the space shuttle;

13. Utilization of primers, topcoats, specialty coatings, cleaning solvents, chemical milling maskants, and strippers containing VOC at concentrations less than 0.1 percent for carcinogens or 1.0 percent for noncarcinogens;

14. Utilization of touch-up, aerosol can, and Department of Defense classified coatings;

15. Maintenance and rework of antique aerospace vehicles and components; and

16. Rework of aircraft or aircraft components if the holder of the Federal Aviation Administration design approval, or the holder's licensee, is not actively manufacturing the aircraft or aircraft components.

(J) The requirements for primers, topcoats, specialty coatings, and chemical milling maskants specified in subsection (3)(A) of this rule do not apply to the use of low-volume coatings in these categories for which the rolling twelve (12)-month total of each separate formulation used at an installation does not exceed fifty (50) gallons, and the combined rolling twelve (12)-month total of all such primers, topcoats, specialty coatings, and chemical milling maskants used does not exceed two hundred (200) gallons. Coatings exempted under subsection (3)(I) of this rule are not included in the fifty (50)- and two hundred (200)-gallon limits.

(K) The following situations are exempt from the requirements of subsections (3)(D) and (3)(E) of this rule:

1. Any situation that normally requires the use of an airbrush or an extension on the spray gun to properly reach limited access spaces;

2. The application of any specialty coating;

3. The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that cannot be applied by any of the application methods specified in subsection (3)(C) of this rule;

4. The application of coatings that normally have dried film thickness of less than 0.0013 centimeter (0.0005 in.) and that cannot

be applied by any of the application methods specified in subsection (3)(C) of this rule;

5. The use of airbrush application methods for stenciling, lettering, and other identification markings;

6. The use of hand-held spray can application methods; and

7. Touch-up and repair operations.

(L) The following cleaning operations are exempt from the requirements of subsection (3)(F) of this rule:

1. Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

2. Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);

3. Cleaning and surface activation prior to adhesive bonding;

4. Cleaning of electronic parts and assemblies containing electronic parts;

5. Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid including air-to-air heat exchangers and hydraulic fluid systems;

6. Cleaning of fuel cells, fuel tanks, and confined spaces;

7. Surface cleaning of solar cells, coating optics, and thermal control surfaces;

8. Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used in the interior of the aircraft;

9. Cleaning of metallic and non-metallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture or maintenance of aerospace vehicles or components;

10. Cleaning of aircraft transparencies, polycarbonate, or glass substrates;

11. Cleaning and solvent usage associated with research and development, quality control, and laboratory testing;

12. Cleaning operations, using non-flammable liquids, conducted within five feet (5') of energized electrical systems; and

13. Cleaning operations identified as essential uses under the Montreal Protocol for which the U.S. Environmental Protection Agency has allocated essential use allowances or exemptions.

(4) Reporting and Record Keeping.

(A) Monitoring Requirements—Each owner or operator of an aerospace manufac-

turing and/or rework operation shall submit a monitoring plan to the director that specifies the applicable operating parameter value, or range of values, to ensure ongoing compliance with paragraph (3)(B)3. of this rule. Any monitoring device, required by the monitoring plan, shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications.

(B) Record Keeping Requirements.

1. Each owner or operator of an aerospace manufacture and/or rework operation that applies coatings listed in subsection (3)(A) of this rule shall—

A. Maintain a current list of coatings in use with category and VOC content as applied;

B. Record each coating volume usage on a monthly basis; and

C. Maintain records of monthly volume-weighted average VOC content for each coating type included in averaging for coating operations that achieve compliance through coating averaging under paragraph (3)(B)2. of this rule.

2. Each owner or operator of an aerospace manufacture and/or rework operation that uses cleaning solvents subject to this rule shall—

A. Maintain a list of materials with corresponding water contents for aqueous and semi-aqueous hand-wipe cleaning solvents;

B. Maintain a current list of cleaning solvents in use with their respective vapor pressure or, for blended solvents, VOC composite vapor pressure for all vapor pressure compliant hand-wipe cleaning solvents. This list shall include the monthly amount of each applicable solvent used; and

C. Maintain a current list of exempt hand-wipe cleaning processes for all cleaning solvents with a vapor pressure greater than forty-five (45) mmHg used in exempt hand-wipe cleaning operations. This list shall include the monthly amount of each applicable solvent used.

D. All records must be kept on-site for a period of five (5) years and made available to the department upon request.

(5) Test Methods.

(A) An owner or operator of an aerospace manufacture and/or rework operation shall determine compliance for coatings which are not waterborne (water-reducible), determine the VOC content of each formulation less water and less exempt solvents as applied using manufacturer's supplied data or Method 24 of 40 CFR part 60, Appendix A. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance shall be



based on the results from the Method 24 analysis. For waterborne (water-reducible) coatings, manufacturer's supplied data alone can be used to determine the VOC content of each formulation.

(B) An owner or operator of an aerospace manufacture and/or rework operation shall determine compliance for cleaning solvents using the following:

1. For aqueous and semi-aqueous cleaning solvents manufacturers' supplied data shall be used to determine the water content; or

2. For hand-wipe cleaning solvents required in subsection (3)(F) of this rule, manufacturers' supplied data or standard engineering reference texts or other equivalent methods shall be used to determine the vapor pressure or VOC composite vapor pressure for blended cleaning solvents.

(C) An owner or operator of an aerospace manufacture and/or rework operation electing to demonstrate compliance with this rule by use of control equipment meeting the requirements of paragraph (3)(B)3. of this rule, shall demonstrate the required capture efficiency in accordance with EPA methods 18, 25, and/or 25A in 40 CFR 60, Appendix A.

*AUTHORITY: section 643.050, RSMo Supp. 1999.\* Original rule filed Aug. 4, 2000, effective March 30, 2001.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, 1992, 1993, 1995.*

### 10 CSR 10-2.210 Control of Emissions From Solvent Metal Cleaning

*PURPOSE: This regulation specifies equipment, operating procedures and training requirements for the reduction of hydrocarbon emissions from solvent metal cleaning operations in the Kansas City metropolitan area.*

*PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.*

(1) Applicability.

(A) This rule shall apply throughout Clay, Jackson and Platte Counties.

(B) This rule shall apply to all installations which emit volatile organic compounds (VOC) from solvent metal cleaning or degreasing operations.

(C) This rule applies to any of the following processes that use nonaqueous solvents to clean and remove soils from metal parts:

1. Spray gun cleaners;

2. Cold cleaners with a solvent reservoir or tank;

3. Open-top vapor or conveyORIZED degreasers; or

4. Air-tight or airless cleaning systems.

(D) Exemptions.

1. The following shall be exempt from this rule:

A. Cold cleaners with liquid surface areas of one (1) square foot or less or maximum capacities of one (1) gallon or less;

B. Solvent cleaning operations that meet the emission control requirements 10 CSR 10-2.205, 10 CSR 10-2.230, 10 CSR 10-2.290 and 10 CSR 10-2.340;

C. Solvent cleaning operations regulated under 40 CFR 63 Subpart T, National Emission Standards for Halogenated Solvent Cleaning. The provisions of 40 CFR part 63 Subpart T promulgated as of December 19, 2005 shall apply and are hereby incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401. This rule does not incorporate any subsequent amendments or additions;

D. The cleaning of electronic components, medical devices or optical devices;

E. Hand cleaning/wiping operations; and

F. Flush cleaning operations.

2. The following shall be exempt from the solvent vapor pressure requirements of subparagraphs (3)(A)1.A. and (3)(A)1.B. of this rule:

A. Sales of cold cleaning solvents in quantities of five (5) gallons or less;

B. Cold cleaners using solvents regulated under any federal National Emission Standards for Hazardous Air Pollutants; and

C. Janitorial and institutional cleaning.

3. All wastes that are subject to hazardous waste requirements at 10 CSR Division 25, Chapter 4 through 9 shall be exempt from the requirements of subparagraphs (3)(B)1.E., (3)(B)2.J., (3)(B)3.H., (3)(B)4.B., (3)(B)5.G. and subsection (4)(A) of this rule.

(2) Definitions.

(A) Airless cleaning system—A degreasing machine that is automatically operated and seals at a differential pressure of 25 torr (25.0 millimeters of Mercury (mmHg)) (0.475 pounds per square inch (psi)) or less, prior to

the introduction of solvent vapor into the cleaning chamber and maintains differential pressure under vacuum during all cleaning and drying cycles.

(B) Air-tight cleaning system—A degreasing machine that is automatically operated and seals at a differential pressure no greater than 0.5 pounds per square inch gauge (psig) during all cleaning and drying cycles.

(C) Aqueous solvent—Any solvent consisting of sixty percent (60%) or more by volume water with a flashpoint greater than ninety-three degrees Celsius (93°C) (one hundred ninety-nine point four degrees Fahrenheit (199.4°F)) and is miscible with water.

(D) Electronic components—All portions of an electronic assembly, including, but not limited to, circuit board assemblies, printed wire assemblies, printed circuit boards, soldered joints, ground wires, bus bars, and associated electronic component manufacturing equipment such as screens and filters.

(E) Flush cleaning—The removal of contaminants such as dirt, grease and coatings from a component or coating equipment by passing solvent over, into or through the item being cleaned. The solvent drained from the item may be assisted by air, compressed gas, hydraulic pressure or by pumping. Flush cleaning does not include spray gun cleaning.

(F) Freeboard area—The air space in a batch-load cold cleaner that extends from the liquid surface to the top of the tank.

(G) Freeboard height—

1. The distance from the top of the solvent to the top of the tank for batch-loaded cold cleaners;

2. The distance from the air-vapor interface to the top of the tank for open-top vapor degreasers; or

3. The distance from either the air-solvent or air-vapor interface to the top of the tank for conveyORIZED degreasers.

(H) Freeboard ratio—The freeboard height divided by the smaller of either the inside length or inside width of the degreaser.

(I) Hand cleaning/wiping operation—The removal of contaminants such as dirt, grease, oil and coatings from a surface by physically rubbing it with a material such as a rag, paper or cotton swab that has been moistened with a cleaning solvent.

(J) Institutional cleaning—Cleaning activities conducted at organizations, societies or corporations including, but not limited to schools, hospitals, sanitariums and prisons.

(K) Janitorial cleaning—The cleaning of building or facility components such as the floors, ceilings, walls, windows, doors, stairs, bathrooms, kitchens, etc.

(L) Medical device—An instrument, apparatus, implement, machine, contrivance, implant, *in vitro* reagent or other similar



article, including any component or accessory that meets one (1) of the following conditions:

1. It is intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease;

2. It is intended to affect the structure or any function of the body; or

3. It is defined in the *National Formulary* or the *United States Pharmacopoeia*, or any supplement to them.

(M) Nonaqueous solvent—Any solvent not classifiable as an aqueous solvent as defined in subsection (2)(C) of this rule.

(N) Optical device—An optical element used in an electro-optical device and designed to sense, detect or transmit light energy, including specific wavelengths of light energy and changes in light energy levels.

(O) Soils—Includes, but not limited to, unwanted grease, wax, grit, ash, dirt and oil. Spray gun soils, in addition, include unwanted primers, paint, specialty coatings, adhesives, sealers, resins or deadeners.

(P) Spray gun cleaner—Equipment used to clean spray guns used to apply, but not limited to, primers, paints, specialty coatings, adhesives, resins or deadeners incorporated into a product distributed in commerce.

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

(3) General Provisions.

(A) Equipment Specifications.

1. Cold cleaners.

A. No one shall use, sell or offer for sale for use within Clay, Jackson and Platte Counties a cold cleaning solvent with a vapor pressure greater than 1.0 mmHg (0.019 psi) at twenty degrees Celsius (20°C) (sixty-eight degrees Fahrenheit (68°F)) unless used for carburetor cleaning.

B. No one shall use, sell or offer for sale for use within Clay, Jackson and Platte Counties a cold cleaning solvent for the purpose of carburetor cleaning with a vapor pressure greater than 5.0 mmHg (0.097 psi) at twenty degrees Celsius (20°C) (sixty-eight degrees Fahrenheit (68°F)).

C. An owner or operator of a cold cleaner may use an alternate method for reducing cold cleaning emissions if the owner or operator shows the level of emission control is equivalent to or greater than the requirements of subparagraphs (3)(A)1.A. and (3)(A)1.B. of this rule. This alternate method must be approved by the director and the U.S. Environmental Protection Agency (EPA).

D. Each cold cleaner shall have a cover which prevents the escape of solvent vapors from the solvent bath while in the closed position or an enclosed reservoir which limits the escape of solvent vapors from the solvent bath whenever parts are not being processed in the cleaner.

E. When one (1) or more of the following conditions exist, the cover shall be designed to operate easily such that minimal disturbing of the solvent vapors in the tank occurs. (For covers larger than ten (10) square feet, this shall be accomplished by either mechanical assistance such as spring loading or counter weighing or by power systems):

(I) The solvent vapor pressure is greater than 0.3 psi measured at thirty-seven point eight degrees Celsius (37.8°C) (one hundred degrees Fahrenheit (100°F));

(II) The solvent is agitated; or

(III) The solvent is heated.

F. Each cold cleaner shall have an internal drainage facility so that parts are enclosed under the cover while draining.

G. If an internal drainage facility cannot fit into the cleaning system and the solvent vapor pressure is less than 0.6 psi measured at thirty-seven point eight degrees Celsius (37.8°C) (one hundred degrees Fahrenheit (100°F)), then the cold cleaner shall have an external drainage facility which provides for the solvent to drain back into the solvent bath.

H. Solvent sprays, if used, shall be a solid fluid stream (not a fine, atomized or shower-type spray) and at a pressure which does not cause splashing above or beyond the freeboard.

I. A permanent conspicuous label summarizing the operating procedures shall be affixed to the equipment or in a location readily visible during operation of the equipment.

J. Any cold cleaner which uses a solvent that has a solvent vapor pressure greater than 0.6 psi measured at thirty-seven point eight degrees Celsius (37.8°C) (one hundred degrees Fahrenheit (100°F)) or heated above forty-eight point nine degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)) must use one (1) of the following control devices:

(I) A freeboard ratio of at least 0.75;

(II) Water cover (solvent must be insoluble in and heavier than water); or

(III) Other control systems with a mass balance demonstrated overall VOC emissions reduction efficiency greater than or equal to sixty-five percent (65%). These control systems must receive approval from the director and EPA prior to their use.

2. Open-top vapor degreasers.

A. Each open-top vapor degreaser shall have a cover which will prevent the escape of solvent vapors from the degreaser while in the closed position and shall be designed to open and close easily such that minimal disturbing of the solvent vapors in the tank occurs. For covers larger than ten (10) square feet, easy cover use shall be accomplished by either mechanical assistance, such as spring loading or counter weighing or by power systems.

B. Each open-top vapor degreaser shall be equipped with a vapor level control device that shuts off the heating source when the vapor level rises above the cooling or condensing coil, or an equivalent safety device approved by the director and EPA.

C. Each open-top vapor degreaser with an air/vapor interface over ten and three-fourths (10 3/4) square feet shall be equipped with at least one (1) of the following control devices:

(I) A freeboard ratio of at least 0.75;

(II) A refrigerated chiller;

(III) An enclosed design (the cover or door opens only when the dry part actually is entering or exiting the degreaser);

(IV) A carbon adsorption system with ventilation of at least fifty (50) cubic feet per minute per square foot of air vapor area when the cover is open and exhausting less than twenty-five parts per million (25 ppm) of solvent by volume averaged over one (1) complete adsorption cycle as measured using the reference method specified at 10 CSR 10-6.030(14)(A); or

(V) A control system with a mass balance demonstrated overall VOC emissions reduction efficiency greater than or equal to sixty-five percent (65%) and prior approval by the director and EPA.

D. A permanent conspicuous label summarizing the operating procedures shall be affixed to the equipment or in a location readily visible during operation of the equipment.

3. Conveyorized degreasers.

A. Each conveyorized degreaser shall have a drying tunnel or rotating (tumbling) basket or other means demonstrated to have equal to or better control which shall be used to prevent cleaned parts from carrying out solvent liquid or vapor.

B. Each conveyorized degreaser shall have the following safety devices which operate if the machine malfunctions:

(I) A vapor level control device that shuts off the heating source when the vapor level rises just above the cooling or condensing coil; and



(II) A spray safety switch, which shuts off the spray pump if the vapor level in the spray chamber drops four inches (4"), for conveyORIZED degreasers utilizing a spray chamber; or

(III) Equivalent safety devices approved by the director and EPA.

C. Entrances and exits shall silhouette workloads so that the average clearance between parts and the edge of the degreaser opening is less than four inches (4") or less than ten percent (10%) of the width of the opening.

D. Covers shall be provided for closing off the entrance and exit during hours when the degreaser is not being used.

E. A permanent, conspicuous label summarizing the operating procedures shall be affixed to the equipment or in a location readily visible during operation of the equipment.

F. If the air/vapor interface is larger than twenty-one and one-half (21 1/2) square feet, one (1) major control device shall be required. This device shall be one (1) of the following:

(I) A refrigerated chiller;

(II) Carbon adsorption system with ventilation of at least fifty (50) cubic feet per minute per square foot of the total entrance and exit areas (when downtime covers are open) and exhausting less than twenty-five (25) ppm of solvent by volume averaged over one (1) complete adsorption cycle as measured using the reference method specified at 10 CSR 10-6.030(14)(A); or

(III) A control system with a mass balance demonstrated overall VOC emissions reduction efficiency greater than or equal to sixty-five percent (65%) and prior approval by the director and EPA.

4. Air-tight or airless cleaning systems. Air-tight or airless cleaning systems shall:

A. Have a permanent conspicuous label summarizing the operating procedures affixed to the equipment or in a location readily visible during operation of equipment;

B. Be equipped with a differential pressure gauge to indicate the sealed chamber pressure under vacuum; and

C. Be equipped with a safety alarm to alert the operator of equipment malfunction.

(B) Operating Procedure Requirements.

1. Cold cleaners.

A. Cold cleaner covers shall be closed whenever parts are not being handled in the cleaners or the solvent must drain into an enclosed reservoir except when performing maintenance or collecting solvent samples.

B. Cleaned parts shall be drained in the freeboard area for at least fifteen (15) seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping, or rotating, the parts shall be positioned so that the solvent drains directly back into the cold cleaner.

C. Whenever a cold cleaner fails to perform within the rule operating requirements, the unit shall be shut down immediately and shall remain shut down until operation is restored to meet rule operating requirements.

D. Solvent leaks shall be repaired immediately or the cold cleaner shall be shut down until the leaks are repaired.

E. Any waste material removed from a cold cleaner shall be disposed of by one (1) of the following methods or an equivalent method approved by the director and EPA:

(I) Reduction of the waste material to less than twenty percent (20%) VOC solvent by distillation and proper disposal of the still bottom waste; or

(II) Stored in closed containers for transfer to—

(a) A contract reclamation service; or

(b) A disposal facility approved by the director and EPA.

F. Waste solvent shall be stored in closed containers only.

2. Open-top vapor degreasers.

A. The cover shall be kept closed at all times except when processing workloads through the open-top vapor degreaser, performing maintenance or collecting solvent samples.

B. Solvent carry-out shall be minimized in the following ways:

(I) Parts shall be racked, if practical, to allow full drainage;

(II) Parts shall be moved in and out of the open-top vapor degreaser at less than eleven feet (11') per minute;

(III) Workload shall remain in the vapor zone at least thirty (30) seconds or until condensation ceases, whichever is longer;

(IV) Pools of solvent shall be removed from cleaned parts before removing parts from the open-top vapor degreaser freeboard area; and

(V) Cleaned parts shall be allowed to dry within the open-top vapor degreaser freeboard area for at least fifteen (15) seconds or until visually dry, whichever is longer.

C. Porous or absorbent materials such as cloth, leather, wood or rope shall not be degreased.

D. If workloads occupy more than half of the open-top vapor degreaser's open-top area, rate of entry and removal shall not exceed five feet (5') per minute.

E. Spray shall never extend above vapor level.

F. Whenever an open-top vapor degreaser fails to perform within the rule operating requirements, the unit shall be shut down until operation is restored to meet the rule operating requirements.

G. Solvent leaks shall be repaired immediately or the open-top vapor degreaser shall be shut down until the leaks are repaired.

H. Ventilation exhaust from the open-top vapor degreaser shall not exceed sixty-five (65) cubic feet per minute per square foot of open-top vapor degreaser open area unless proof is submitted that it is necessary to meet Occupational Safety and Health Administration (OSHA) requirements. Fans shall not be used near the open-top vapor degreaser opening.

I. Water shall not be visually detectable in solvent exiting the water separator, except for automatic water separators that by configuration do not allow visual inspection.

J. Any waste material removed from an open-top vapor degreaser shall be disposed of by one (1) of the following methods or an equivalent method approved by the director and EPA:

(I) Reduction of the waste material to less than twenty percent (20%) VOC solvent by distillation and proper disposal of the still bottom waste; or

(II) Stored in closed containers for transfer to—

(a) A contract reclamation service; or

(b) A disposal facility approved by the director and EPA.

K. Waste solvent shall be stored in closed containers only.

3. ConveyORIZED degreasers.

A. Ventilation exhaust from the conveyORIZED degreaser shall not exceed sixty-five (65) cubic feet per minute per square foot of conveyORIZED degreaser opening unless proof is submitted that it is necessary to meet OSHA requirements. Fans shall not be used near the conveyORIZED degreaser opening.

B. Solvent carry-out shall be minimized in the following ways:

(I) Parts shall be racked, if practical, to allow full drainage; and

(II) Vertical conveyor speed shall be maintained at less than eleven feet (11') per minute.



C. Whenever a conveyorized degreaser fails to perform within the rule operating requirements, the unit shall be shut down immediately and shall remain shut down until operation is restored to meet the rule operating requirements.

D. Solvent leaks shall be repaired immediately or the conveyorized degreaser shall be shut down until the leaks are repaired.

E. Water shall not be visually detectable in solvent exiting the water separator.

F. Covers shall be placed over entrances and exits immediately after conveyor and exhaust are shut down and removed just before they are started up.

G. Waste solvent shall be stored in closed containers only.

H. Any waste material removed from a conveyorized degreaser shall be disposed of by one (1) of the following methods or an equivalent method approved by the director and EPA:

(I) Reduction of the waste material to less than twenty percent (20%) VOC solvent by distillation and proper disposal of the still bottom waste; or

(II) Stored in closed containers for transfer to—

(a) A contract reclamation service; or

(b) A disposal facility approved by the director and EPA.

#### 4. Spray gun cleaners.

A. Cleaning of spray guns shall be accomplished by use of one (1) or more of the following methods:

(I) Enclosed spray gun cleaning. Enclosed system spray gun cleaning shall consist of forcing solvent through the spray gun and/or spray gun parts. Spray guns and/or spray gun parts shall only be cleaned in remote closed top spray gun cleaning machines under the following conditions:

(a) The spray gun cleaning machine is operated within the manufacturer's specifications and with the lid kept tightly closed at all times except when being accessed or maintained; and

(b) Removable containers (which shall not exceed thirty (30) gallons in size) for clean, used and waste solvent, are kept tightly closed except when being accessed or maintained;

(II) Nonatomized spray gun cleaning. Nonatomized spray gun cleaning shall consist of placing solvent in the pressure pot and forcing it through the spray gun with the atomizing cap in place. Spray guns shall only be cleaned through nonatomized spray gun cleaning under the following conditions:

(a) No atomizing air shall be used; and

(b) The cleaning solvent from the spray gun shall be directed into a pail, bucket, drum or other waste container that is closed when not in use;

(III) Disassembled spray gun cleaning. Disassembled spray gun cleaning shall be accomplished by disassembling the spray gun to be cleaned and cleaning the components by one (1) of the following methods:

(a) By hand in a spray gun cleaner, which shall remain closed except when in use; or

(b) By soaking in a spray gun cleaner, which shall remain closed during the soaking period and when not inserting or removing components;

(IV) Atomized spray gun cleaning. Atomized spray gun cleaning shall consist of forcing the cleaning solvent through the gun and directing the resulting atomized spray into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions; or

(V) Cleaning of the nozzle tips of an automated spray equipment system is exempt from the requirements of paragraph (3)(B)4. of this rule, unless the system is a robotic system that is programmed to spray into a closed container.

B. Any waste material removed from a spray gun cleaning system shall be disposed of by one (1) of the following methods or an equivalent method approved by the director and EPA:

(I) Reduction of the waste material to less than twenty percent (20%) VOC solvent by distillation and proper disposal of the still bottom waste; or

(II) Stored in closed containers for transfer to—

(a) A contract reclamation service; or

(b) A disposal facility approved by the director and EPA.

C. Waste solvent shall be stored in closed containers only.

#### 5. Air-tight and airless cleaning systems.

A. Operate the air-tight and airless cleaning systems with a door or other pressure sealing apparatus in place during all cleaning and drying cycles.

B. All associated pressure relief devices shall not allow liquid solvent to drain out of the equipment.

C. Solvent leaks shall be repaired immediately or the air-tight or airless cleaning system shall be shut down until the leaks are repaired.

D. The air-tight and airless cleaning systems shall be operated within the manufacturer's specifications.

E. Parts shall be positioned, if practical, to allow full drainage and pools of solvent shall be removed from cleaned parts before removing parts from the air-tight or airless cleaning system.

F. Wipe up solvent leaks and spills immediately and store the used rags in closed containers.

G. Any waste material removed from an air-tight and airless cleaning system shall be disposed of by one (1) of the following methods or an equivalent method approved by the director and EPA:

(I) Reduction of the waste material to less than twenty percent (20%) VOC solvent by distillation and proper disposal of the still bottom waste; or

(II) Stored in closed containers for transfer to—

(a) A contract reclamation service; or

(b) A disposal facility approved by the director and EPA.

H. Waste solvent shall be stored in closed containers only.

#### (C) Operator and Supervisor Training.

1. Only persons trained in at least the operational and equipment requirements specified in this rule for their particular solvent metal cleaning process shall be permitted to operate the equipment.

2. The person who supervises any person who operates solvent cleaning equipment regulated by this rule shall receive equal or greater operational training than the operator.

3. A procedural review shall be given to all solvent metal cleaning equipment operators at least once each twelve (12) months.

4. Training records shall be maintained per subsections (4)(D) and (4)(E) of this rule.

#### (4) Reporting and Record Keeping.

(A) The owner or operator of a solvent metal cleaning or degreasing operation shall keep records of all types and amounts of solvent containing waste material from cleaning or degreasing operations transferred to either a contract reclamation service or to a disposal facility and all amounts distilled on the premises. The records also shall include maintenance and repair logs for both the degreaser and any associated control equipment. These records shall be kept current and made available for review on a monthly basis. The director may require additional record keeping if necessary to adequately demonstrate compliance with this rule.



(B) All persons that use any solvent subject to the requirements of subparagraphs (3)(A)1.A. or (3)(A)1.B. of this rule shall maintain records which include for each purchase of cold cleaning solvent:

1. The name and address of the solvent supplier;
2. The date of purchase;
3. The type of solvent; and
4. The vapor pressure of the solvent in mmHg at twenty degrees Celsius (20°C) (sixty-eight degrees Fahrenheit (68°F)).

(C) All persons that sell or offer for sale any solvent subject to the requirements of subparagraph (3)(A)1.A. or (3)(A)1.B. of this rule shall maintain records which include for each sale of cold cleaning solvent:

1. The name and address of the solvent purchaser;
2. The date of sale;
3. The type of solvent;
4. The unit volume of solvent;
5. The total volume of solvent; and
6. The vapor pressure of the solvent measured in mmHg at twenty degrees Celsius (20°C) (sixty-eight degrees Fahrenheit (68°F)).

(D) A record shall be kept of solvent metal cleaning training required by subsection (3)(C) of this rule.

(E) All records required under subsections (4)(A), (4)(B), (4)(C) and (4)(D) of this rule shall be retained for five (5) years and shall be made available to the director upon request.

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

*AUTHORITY: section 643.050, RSMo 2000. \* Original rule filed Nov. 14, 1978, effective June 11, 1979. Amended: Filed July 1, 1987, effective Dec. 12, 1987. Amended: Filed Jan. 29, 2001, effective Oct. 30, 2001. Amended: Filed June 26, 2007, effective Feb. 29, 2008.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, transferred from 203.050 in 1986, 1992, 1993, 1995.*

### 10 CSR 10-2.215 Control of Emissions from Solvent Cleanup Operations

*PURPOSE: This rule will reduce volatile organic compound (VOC) emissions from solvent cleanup operations. The RSMo 536.016 requirement for necessity evidence is the Kansas City Ozone Maintenance Plan adopted February 3, 1998, and section 182 of the Clean Air Act.*

(1) Applicability.

(A) This rule shall apply throughout Clay, Jackson and Platte counties.

(B) This rule shall apply to any person who performs or allows the performance of any cleaning operation involving the use of a VOC solvent or solvent solution. The provisions of this rule shall not apply to any stationary source at which cleaning solvent VOCs are emitted at less than five hundred (500) pounds per day. Once a source is determined to exceed the applicability level of this rule, it shall remain subject to this rule even if its actual emissions drop below the applicability level.

(C) The following cleaning operations are not subject to the provisions of this rule:

1. Cold cleaner;
2. Open top vapor degreaser;
3. Conveyorized cold cleaners;
4. Conveyorized vapor degreaser;
5. Nonmanufacturing area cleaning. Nonmanufacturing areas include cafeterias, laboratories, pilot facilities, restrooms, and office buildings;
6. Cleaning operations for which there has been made a best available control technology, reasonably available control technology, or lowest achievable emission rate determination; and
7. Cleaning operations which are subject to the Aerospace National Emission Standards for Hazardous Air Pollutants Standards source category, under 40 CFR 63 subpart GG.

(2) Definitions.

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

(B) Simple mass balance equation (SMBE) for the purposes of this rule is a summation of the vapor amounts that equal the total weight of liquid solvent in the system minus the weight of liquid solvent in the used category.

$$V_e = S_i - S_o(1 - X_{ci})(1 - C_{ei})$$

Where

$V_e$  = Total weight of the evaporative loss of the VOC. (from container, the cleaning operation, the surface being cleaned, and the discard wipes and residue)

$S_i$  = Liquid VOC input weight

$S_o$  = Total liquid VOC output weight (from the cleaning operation, the surface being cleaned and the discard wipes and residue)

$X_{ci}$  = Total weight fraction of the contaminants (in the wipes and liquid residue)

$C_{ei}$  = Total weight fraction due to control of VOCs attributed to add on emission con-

trol device(s). Note  $C_{ei}$  will be zero (0) if not applicable.

(3) General Provisions.

(A) Any person performing any industrial cleaning operation, not excluded in subsection (1)(B) or (1)(C) of this rule, involving the use of a VOC solvent or solvent solution shall demonstrate a thirty percent (30%) reduction in plant-wide industrial VOC cleaning solvent emissions as described in subsection (3)(B) of this rule by May 1, 2003.

(B) Solvent Emission Reduction. The following provisions shall apply to any stationary source subject to subsection (3)(A) of this rule:

1. A thirty percent (30%) emission reduction shall be based on the average of the summation of the emissions in 1997 and 1998 or shall be based on total VOC emissions from plant-wide solvent cleanup operations divided by units produced in 1997 and 1998. If the owner/operator demonstrates that 1997 and 1998 are not representative production years, then a demonstration shall be made to the agency that other years are more representative for purposes of comparison or for prorating cleaning solvent usage. The following applicable documentation of actions and associated emission reductions shall be sent to the department for approval by December 1, 2002:

A. Changes in cleaning solvents used;

B. Changes in work practices; and

C. Changes in equipment or processes; and

2. The changes described in paragraph (3)(B)1. of this rule shall remain in effect until other changes resulting in greater, or equal, VOC emission reductions from the cleaning operations are implemented.

(4) Reporting and Record Keeping. The person responsible for industrial cleaning operations at an affected facility seeking to comply with subsection (3)(A) of this rule shall keep records of information sufficient for the calculation of emissions from each Unit Operation System (UOS) from the use of industrial cleaning solvents. A UOS consists of an industrial cleaning operation around which all organic solvent usage, disposal and fugitive losses may be calculated using a SMBE. As an aid to compliance with this section, records for industrial cleaning UOSs may include one (1) or more of the following:

(A) Engineering drawings or sketches of all UOSs used to define industrial cleaning operations within the facility, including a system boundary, organic solvent input(s), organic solvent output(s), and organic solvent



evaporative loss points. These drawings shall include each of the following:

1. Labeled boxes within the system boundary which describe all components of the UOS, including any virgin solvent containers, solvent applicators, used solvent containers, and the surface being cleaned;

2. Numbered or lettered arrows depicting liquid and/or evaporative solvent flow, accurate with respect to relative mass flow rates in and out of the system boundary; and

3. Arrows depicting all organic solvent pathways within the system boundary;

(B) One (1) accurate SMOBE for each UOS depicted in subsection (4)(A) of this rule. Each equation shall have variables consistent with those used to define the corresponding UOS and shall be solved for total VOC emissions for the UOS;

(C) Any assumptions or approximations made in defining the UOSs; and

(D) Records shall be retained by the owner or operator for a minimum of five (5) years. These records shall be made available to the representatives of the department upon request.

(5) Test Methods. (Not Applicable)

*AUTHORITY: section 643.050, RSMo Supp. 1999.\* Original rule filed Aug. 30, 2000, effective May 30, 2001.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, 1992, 1993, 1995.*

**10 CSR 10-2.220 Liquefied Cutback Asphalt Paving Restricted**

*PURPOSE: This regulation restricts volatile organic compounds emissions from cutback asphalt paving operations.*

(1) Application.

(A) This regulation shall apply only in Clay, Jackson and Platte Counties.

(B) This regulation limits the use or application of liquefied cutback asphalt in paving and maintenance operations on highways, roads, parking lots and driveways.

(2) General. After December 31, 1982, no person may cause or permit the use or application of liquefied cutback asphalts on highways, roads, parking lots and driveways during the months of April, May, June, July, August, September and October except as permitted in section (3). This section refers to liquefied cutback asphalt which is directly applied or used in a plant-mix or road-mix.

(3) Exceptions. The use or application of liquefied cutback asphalts is permitted if the liquefied cutback asphalt is—

(A) Used in a plant-mix or road-mix which is used solely for filling potholes or for emergency repairs;

(B) Used to produce a plant-mix manufactured for resale or for use outside Clay, Jackson and Platte Counties; or

(C) To be used solely as an asphalt prime coat or an asphalt seal coat on absorbent surfaces.

(4) Recordkeeping.

(A) Records shall be kept on all application uses and all production quantities sufficient to determine daily volatile organic compound emissions for the months of April, May, June, July, August, September and October.

(B) Liquefied cutback asphalt plants shall keep records of the quantities of liquefied cutback asphalt sold and who the purchasers are. The owner, operator or user shall record all information derived for a period of not less than two (2) years and all those records shall be made available to the director upon his/her request.

*AUTHORITY: section 643.050, RSMo 1986.\* Original rule filed Nov. 14, 1978, effective July 12, 1979. Amended: Filed Jan. 3, 1991, effective Aug. 30, 1991.*

*\*Original authority 1965, amended 1972, transferred from 203.050 in 1986, 1992, 1993.*

**10 CSR 10-2.230 Control of Emissions From Industrial Surface Coating Operations**

*PURPOSE: This regulation restricts volatile organic compound emissions from industrial surface coating operations.*

*Editor's Note: The secretary of state has determined that the publication of this rule in its entirety would be unduly cumbersome or expensive. The entire text of the material referenced has been filed with the secretary of state. This material may be found at the Office of the Secretary of State or at the headquarters of the agency and is available to any interested person at a cost established by state law.*

(1) Application.

(A) This regulation shall apply only in Clay, Jackson and Platte Counties.

(B) This regulation shall apply to any installation with an uncontrolled potential to emit greater than 6.8 kilograms per day

(kg/day) or 2.7 tons per year of volatile organic compounds (VOC) from industrial surface coating operations covered under this rule. This includes any installation which does not have an allowable VOC emission limit established under 10 CSR 10-6.060 or legally enforceable state implementation plan revision and has uncontrolled potential emissions greater than or equal to 6.8 kg/day or 2.7 tons per year. The uncontrolled potential emit is the potential emissions (as defined) plus the VOC removed by emission control devices.

(C) This regulation is not applicable to the surface coating of the following metal parts and products:

1. Exterior refinishing of airplanes;
2. Automobile refinishing;
3. Customizing top coating of automobiles and trucks, if production is less than thirty-five (35) vehicles per day; and
4. Exterior of marine vessels.

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

(3) General Provisions. No person shall emit to the atmosphere any VOC from any surface coating operation in excess of the amount allowed in section (4). This section will apply across all application areas, flash-off areas and ovens used in an affected coating operation.

(4) Tables of Emission Limitations and Dates of Compliance.

(A) Table A: VOC Emission Limits Based on Solids Applied.

| Surface Coating Operations | Emission Limit           | Dates of Compliance (See Note 1) |
|----------------------------|--------------------------|----------------------------------|
|                            | # VOC/gal Solids Applied |                                  |
| Auto/light duty truck      |                          |                                  |
| *Ford Motor Company        |                          |                                  |
| Primer Surfacer            | 15.1                     | 12/24/87                         |
| Topcoat (passenger)        | 15.1                     | 12/31/88                         |
| Topcoat (truck)            |                          |                                  |
| (See Note 2)               | 15.1                     | 12/31/88                         |
| General Motors Car         |                          |                                  |
| Primer Surfacer            | 15.1                     | 12/31/87                         |
| Topcoat                    | 15.1                     | 12/31/87                         |

(B) Table B: VOC Emission Limits Based on Weight of VOC per Gallon of Coating (minus water and non-VOC organic compounds).



| Surface Coating Operation                                       | Emission Limit VOC/gal Coating (minus water) and non-VOC Organic Compounds | Dates of Compliance (See Note 1) |
|---|--|----------------------------------|
| Large Appliance   |  |                                  |
| *Topcoat  | 2.8  | 12/31/81                         |
| Final Repair  | 6.5  | 12/31/81                         |
| Magnet wire   | 1.7  | 12/31/81                         |
| Metal furniture   | 3.0  | 12/31/81                         |
| Auto/light duty truck   |  |                                  |
| Ford Motor Company  |  |                                  |
| Electrocoat prime   | 1.2  | 12/31/82                         |
| Topcoat (truck)   | 3.6  | 12/31/85                         |
| Topcoat (passenger)   | 3.6  | 12/31/86                         |
| Final Repair  | 4.8  | 12/31/85                         |
| Miscellaneous   |  |                                  |
| Metal Parts—  |  |                                  |
| Extreme Performance and Air-Dried Coatings                      | 3.5  | 12/31/82                         |
| All Other Coatings  | 3.0  | 12/31/82                         |
| General Motors Car  |  |                                  |
| Cathodic Electrocoat  | 1.2  | 12/31/82                         |
| Primer Surfacer   | 3.0  | 12/31/80                         |
| Topcoat   | 5.8  | 12/31/79                         |
|   | 5.0  | 12/31/81                         |
| Final Repair  | 6.5  | 7/01/79                          |
|   | 4.8  | 12/31/87                         |
| Plastic Fascia Topcoat  | 4.5  | 11/23/87                         |
| Miscellaneous   |  |                                  |
| Metal Parts—  |  |                                  |
| Extreme Performance and Air-Dried Coatings                      | 3.5  | 12/31/82                         |
| All Other Coatings  | 3.0  | 12/31/82                         |
| Paper   | 2.9  | 12/31/81                         |
| Vinyl   | 3.8  | 12/31/81                         |
| Fabric  | 2.9  | 12/31/81                         |
| Coil  | 2.6  | 12/31/81                         |
| Can   |  |                                  |
| 2 piece exterior, sheet basecoat                                | 4.0  | 12/31/82                         |
|   | 2.8  | 12/31/85                         |
| 2 and 3 piece interior body spray                               | 4.2  | 12/31/82                         |
| 2 piece end exterior  | 4.2  | 12/31/82                         |
| 3 piece side seam   | 5.5  | 12/31/82                         |
| End Seal Compound   | 4.2  | 12/31/82                         |
|   | 3.7  | 12/31/85                         |
| Railroad Cars, Farm Implements, Machinery and Heavy Duty Trucks | 3.5  | 12/31/82                         |
| Other Metal Parts   |  |                                  |
| Clear Coat  | 4.3  | 12/31/82                         |
| Extreme Performance Coat and Air-Dried Coating                  | 3.5  | 12/31/82                         |
| Other Coatings  | 3.0  | 12/31/82                         |

Note 1—The emission limit associated with the latest compliance date for each surface coating process supersedes interim emission limits associated with earlier compliance dates.

Note 2—A formal commitment submitted to and received by the director prior to 12/31/88 to construct or modify the truck topcoat surface coating operation no later than 12/31/90 to meet the provisions of 10 CSR 10-6.070 or 40 CFR 60 Subpart MM, whichever is more stringent, may be substituted for this emission limitation. The emission limit specified by the rules referenced in this note is 12.3 lbs. VOC per gallon of solids applied.

(5) Determination of Compliance. Compliance with section (4) of this regulation shall be determined by the methods in subsections (5)(A)–(C) as applicable and appropriate.

(A) For subsection (4)(A), the calculation of daily volume-weighted emission performance for automobile and light-duty truck primer-surfacer and topcoat operations, shall be made according to procedures detailed in the Environmental Protection Agency (EPA) document entitled *Protocol for Determining the Daily Volatile Organic Compound Emission Rate for Automobile and Light Duty Truck Topcoat Operations* dated June 10, 1988.

(B) For subsection (4)(B)—  
1. Compliance with emission limits may be demonstrated using the method referenced in 10 CSR 10-6.030(14)(C) using the one (1)-hour bake. Emission performance shall be on the basis of a daily volume-weighted average of all coatings used in each surface coating operation as delivered to the coating applicator(s) on a coating line. The daily volume-weighted average (DAVG<sub>vw</sub>) is calculated by the following formula:

$$DAVG_{vw} = \frac{\sum_{i=1}^n (A_i \times B_i)}{C}$$

Where: A=daily gal. each coating used (minus water and exempt solvents) in a surface coating operation.

B=lbs. VOC/gal coating (minus water and exempt solvents).

C=total daily gal. coating used (minus water and exempt solvents) in a surface coating operation.

n=number of all coating used in a surface coating operation;

or

2. Compliance with the emission limits in subsection (4)(B) may be demonstrated on pounds of VOC per gallon of coating solids basis. The demonstration is made by first converting the emission limit in subsection (4)(B) to pounds of VOC per gallon of coat-

ing solids as shown in the following three (3) steps:

$$1) \frac{\text{lbs. VOC per gallon of coating minus water} \& \text{ exempt solvents}}{\text{(Emission Limit from (4)(B))}} = \text{volume fraction of VOC}$$

7.36 lbs. per gallon (average density of solvents used to originally establish the emission limit)

$$2) 1 - \text{Volume fraction of VOC} = \text{Volume fraction of solids}$$

$$3) \frac{\text{lbs. VOC per gallon of coating minus water} \& \text{ exempt solvents}}{\text{Volume fraction of solids}} = \frac{\text{lbs. VOC}}{\text{gallon of coating solids}}$$

This value is the new compliance figure. The VOC per gallon of coating solids for each coating used is then determined using the method referenced in 10 CSR 10-6.030(14)(C) using the one (1)-hour bake. The composite daily volume-weighted average of pounds of VOC per gallon of coating solids as tested for in the actual coatings used is compared to the new compliance figure. Source operations on a coating line using coatings with a composite actual daily volume-weighted average value less than or equal to the new compliance figure are in compliance with this regulation.

(C) As an alternative to the methods specified in subsections (5)(A) and (B), compliance with the emission limits specified in subsections (4)(A) and (B) may be demonstrated by the implementation of an emission reduction equivalency compliance plan which utilizes a daily weighted average of emissions from a single or combination of source operations provided that—

1. All source operations involved in the plan are subject to the emission limits of this regulation;

2. All source operations are part of the same installation;

3. The total actual VOC emissions for each twenty-four (24)-hour period do not exceed the sum of the allowable emissions determined from section (4) for each source operation for the same period;

4. Equivalent emission reductions are accomplished in the time intervals allowed in subsection (4)(B) as would be required for individual source operations;

5. After December 24, 1987, testing of raw materials, emissions, equipment, or a combination of these, must be performed prior to initiation of an alternate compliance plan to verify any equivalent emission reductions claimed. All test methods and procedures to be acceptable for use in the equivalency





determination must receive prior review and must have been approved by the director. Failure to gain test method and procedure approval of the director will invalidate the equivalency claim; and

6. The overall plan is approved by the director.

(6) Recordkeeping.

(A) The owner or operator of a coating line shall keep records detailing specific VOC sources, as necessary to determine compliance. These may include:

1. The type and the quantity of coatings used daily;

2. The coating manufacturer's formulation data for each coating on forms provided or approved by the director;

3. The type and quantity of solvents for coating, thinning, purging and equipment cleaning used daily;

4. All test results to determine capture and control efficiencies, transfer efficiencies and coating makeup;

5. The type and quantity of waste solvents reclaimed or discarded daily;

6. The quantity of pieces or materials coated daily; and

7. Any additional information pertinent to determine compliance.

(B) Records, such as daily production rates, may be substituted for actual daily coating use measurement provided the owner submits a demonstration approvable by the director that these records are adequate for the purposes of this regulation. This will apply for all surface coating industries until the EPA issues national daily emissions recordkeeping protocols for specific industrial classifications.

(C) Records required under subsections (6)(A) and (B) shall be retained by the owner or operator for a minimum of two (2) years. These records shall be made available to the director upon request.

*AUTHORITY: section 643.050, RSMo 1986. \* Original rule filed Dec. 15, 1978, effective July 12, 1979. Amended: Filed Oct. 15, 1979, effective March 13, 1980. Amended: Filed March 13, 1980, effective Sept. 12, 1980. Amended: Filed July 1, 1987, effective Dec. 24, 1987. Amended: Filed Aug. 4, 1988, effective Nov. 24, 1988.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, transferred from 203.050 in 1986, 1992, 1993.*

**10 CSR 10-2.240 Restriction of Emissions of Volatile Organic Compounds From Petroleum Refinery Sources**  
(Rescinded November 23, 1987)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed Dec. 15, 1978, effective June 11, 1979. Rescinded: Filed July 1, 1987, effective Nov. 23, 1987.*

**10 CSR 10-2.250 Control of Volatile Leaks From Petroleum Refinery Equipment**  
(Rescinded November 23, 1987)

*AUTHORITY: section 203.050, RSMo 1978. Original rule filed Dec. 15, 1978, effective June 11, 1979. Rescinded: Filed July 1, 1987, effective Nov. 23, 1987.*

**10 CSR 10-2.260 Control of Petroleum Liquid Storage, Loading and Transfer**

*PURPOSE: This rule restricts volatile organic compound emissions from the handling of petroleum liquids in three specific areas: petroleum storage tanks with a capacity greater than forty thousand gallons, the loading of gasoline into delivery vessels and the transfer of gasoline from delivery vessels into stationary storage containers. Exemptions are provided for facilities that make transfers into stationary storage containers of certain sizes and types. This rule is required in order to reduce hydrocarbon emissions in the Kansas City metropolitan area that contribute to the formation of ozone.*

(1) Applicability. This rule shall apply throughout Clay, Jackson and Platte Counties.

(2) Definitions.

(A) CARB—California Air Resources Board, 2020 L Street, PO Box 2815, Sacramento, CA 95812.

(B) Department—Missouri Department of Natural Resources, 205 Jefferson Street, PO Box 176, Jefferson City, MO 65102.

(C) Initial fueling of motor vehicles—The operation of dispensing gasoline fuel into a newly assembled motor vehicle at an automobile assembly plant while the vehicle is still being assembled on the assembly line. The newly assembled motor vehicles being fueled on the assembly line must have fuel tanks that have never before contained gasoline fuel.

(D) MO/PETP—The Missouri Performance Evaluation Test Procedures, a set of test procedures for evaluating performance of Stage I/II vapor control equipment and systems to be installed or that have been installed in Missouri. Contact the department for a copy of the latest MO/PETP.

(E) Staff director—Director of the Air Pollution Control Program of the Department of Natural Resources, or a designated representative.

(F) Stage I vapor recovery system—A system used to capture the gasoline vapors that would otherwise be emitted when gasoline is transferred from a loading installation to a delivery vessel or from a delivery vessel to a storage tank.

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

(3) General Provisions.

(A) Petroleum Storage Tanks.

1. No owner or operator of petroleum storage tanks shall cause or permit the storage in any stationary storage tank of more than forty thousand (40,000) gallons capacity of any petroleum liquid having a true vapor pressure of one and one-half (1.5) pounds per square inch absolute (psia) or greater at ninety degrees Fahrenheit (90°F), unless the storage tank is a pressure tank capable of maintaining working pressures sufficient at all times to prevent volatile organic compound (VOC) vapor or gas loss to the atmosphere or is equipped with one (1) of the following vapor loss control devices:

A. A floating roof, consisting of a pontoon type, double-deck type or internal floating cover, or external floating cover, that rests on the surface of the liquid contents and is equipped with a closure seal(s) to close the space between the roof edge and tank wall. Storage tanks with external floating roofs shall meet the additional following requirements:

(I) The storage tank shall be fitted with either—

(a) A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or

(b) A closure or other device approved by the staff director that controls VOC emissions with an effectiveness equal to or greater than a seal required under subpart (3)(A)1.A.(I)(a) of this rule;

(II) All seal closure devices shall meet the following requirements:

(a) There are no visible holes, tears or other openings in the seal(s) or seal fabric;

(b) The seal(s) is intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

(c) For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 centimeters, one-eighth inch (1/8") width, between the secondary seal and the tank wall shall not exceed 21.2 cm<sup>2</sup> per meter of tank diameter (1.0 in<sup>2</sup> per foot of tank diameter);



(III) All openings in the external floating roof, except for automatic bleeder vents, rim space vents and leg sleeves shall be equipped with—

(a) Covers, seals or lids in the closed position except when the openings are in actual use; and

(b) Projections into the tank which remain below the liquid surface at all times;

(IV) Automatic bleeder vents shall be closed at all times except when the roof is floated off or landed on the roof leg supports;

(V) Rim vents shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and

(VI). Emergency roof drains shall have slotted membrane fabric covers or equivalent covers which cover at least ninety percent (90%) of the area of the opening;

B. A vapor recovery system with all storage tank gauging and sampling devices gas-tight, except when gauging or sampling is taking place. The vapor disposal portion of the vapor recovery system shall consist of an adsorber system, condensation system, incinerator or equivalent vapor disposal system that processes the vapor and gases from the equipment being controlled; or

C. Other equipment or means of equal efficiency for purposes of air pollution control as approved by the staff director.

2. Control equipment described in subparagraph (3)(A)1.A. of this rule shall not be allowed if the petroleum liquid other than gasoline has a true vapor pressure of 11.1 psia or greater at ninety degrees Fahrenheit (90°F). All storage tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

3. Owners and operators of petroleum storage tanks subject to this subsection shall maintain written records of maintenance (both routine and unscheduled) performed on the tanks, all repairs made, the results of all tests performed and the type and quantity of petroleum liquid stored in them.

4. This subsection shall not apply to petroleum storage tanks which—

A. Are used to store processed and/or treated petroleum or condensate when it is stored, processed and/or treated at a drilling and production installation prior to custody transfer;

B. Contain a petroleum liquid with a true vapor pressure less than 27.6 kilopascals (kPa) (4.0 psia) at ninety degrees Fahrenheit (90°F);

C. Are of welded construction, and equipped with a metallic-type shoe primary seal and have a shoe-mounted secondary seal

or closure devices of demonstrated equivalence approved by the staff director; or

D. Are used to store waxy, heavy pour crude oil.

(B) Gasoline Loading.

1. No owner or operator of a gasoline loading installation or delivery vessel shall cause or permit the loading of gasoline into any delivery vessel from a loading installation unless the loading installation is equipped with a vapor recovery system or equivalent. This system or system equivalent shall be approved by the staff director and the delivery vessel shall be in compliance with subsection (3)(D) of this rule.

2. Loading shall be accomplished in a manner that the displaced vapors and air will be vented only to the vapor recovery system. Measures shall be taken to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected. The vapor disposal portion of the vapor recovery system shall consist of one (1) of the following:

A. An adsorber system, condensation system, incinerator or equivalent vapor disposal system that processes the vapors and gases from the equipment being controlled and limits the discharge of VOC into the atmosphere to ten (10) milligrams of VOC vapor per liter of gasoline loaded;

B. A vapor handling system that directs the vapor to a fuel gas system; or

C. Other equipment of an efficiency equal to or greater than subparagraph (3)(B)2.A. or B. of this rule if approved by the staff director.

3. Owners and operators of loading installations subject to this subsection shall maintain complete records documenting the number of delivery vessels loaded and their owners.

4. This subsection shall not apply to loading installations whose average monthly throughput of gasoline is less than or equal to one hundred twenty thousand (120,000) gallons when averaged over the most recent calendar year, provided that the installation loads gasoline by submerged loading.

A. To maintain the exemption, these installations shall submit to the staff director on a form supplied by the department by February 1 of each year, a report stating gasoline throughput for each month of the previous calendar year. After the effective date of this rule, any revision to the department supplied forms will be presented to the regulated community for a forty-five (45) day comment period.

B. Delivery vessels purchased after the effective date of this rule shall be Stage I equipped.

C. A loading installation that fails to meet the requirements of the exemption for one (1) calendar year shall not qualify for the exemption again.

D. To maintain the exemption owners or operators shall maintain records of gasoline throughput and gasoline delivery.

E. Delivery vessels operated by an exempt installation shall not deliver to Stage I controlled tanks unless the delivery vessel is equipped with and employs Stage I controls.

(C) Gasoline Transfer.

1. No owner or operator of a gasoline storage tank or delivery vessel shall cause or permit the transfer of gasoline from a delivery vessel into a gasoline storage tank with a capacity greater than two hundred fifty (250) gallons unless—

A. The storage tank is equipped with a submerged fill pipe extending unrestricted to within six inches (6") of the bottom of the tank, and not touching the bottom of the tank, or the storage tank is equipped with a system that allows a bottom fill condition;

B. All storage tank caps and fittings are vapor-tight when gasoline transfer is not taking place; and

C. Each storage tank is vented via a conduit that is:

(I) At least two inches (2") inside diameter;

(II) At least twelve feet (12') in height above grade; and

(III) Equipped with a pressure/vacuum valve that is CARB certified and MO/PETP approved at three inches water column pressure/eight inches water column vacuum (3" wcp/8" wcv). When the owner or operator provides documentation that the system is CARB certified for a different valve and will not function properly with a 3" wcp/8" wcv valve, the valve shall be MO/PETP approved. All pressure/vacuum valves shall be bench tested prior to installation. Initial fueling facilities shall have MO/PETP approved pressure/vacuum valves.

2. Stationary storage tanks with a capacity greater than two thousand (2,000) gallons shall also be equipped with a Stage I vapor recovery system in addition to the requirements of paragraph (3)(C)1. of this rule and the delivery vessels to these tanks shall be in compliance with subsection (3)(D) of this rule.

A. The vapor recovery system shall collect no less than ninety percent (90%) by volume of the vapors displaced from the stationary storage tank during gasoline transfer and shall return the vapors via a vapor-tight



return line to the delivery vessel. After the effective date of this rule, all coaxial systems shall be equipped with poppeted fittings.

B. A delivery vessel shall be refilled only at installations complying with the provisions of subsection (3)(B) of this rule.

C. This subsection shall not be construed to prohibit safety valves or other devices required by governmental regulations.

3. No owner or operator of a gasoline delivery vessel shall cause or permit the transfer of gasoline from a delivery vessel into a storage tank with a capacity greater than two thousand (2,000) gallons unless—

A. The owner or operator employs one (1) vapor line per product line during the transfer. The staff director may approve other delivery systems upon submittal to the department of test data demonstrating compliance with subparagraph (3)(C)2.A. of this rule;

B. The vapor hose(s) employed is no less than three inches (3") inside diameter; and

C. The product hose(s) employed is no more than four inches (4") inside diameter.

4. The owner or operator of stationary storage tanks subject to this subsection shall keep records documenting the vessel owners and number of delivery vessels unloaded by each owner. The owner or operator shall retain on-site copies of the loading ticket, manifest or delivery receipt for each grade of product received, subject to examination by the staff director upon request. If a delivery receipt is retained rather than a manifest or loading ticket, the delivery ticket shall bear the following information: vendor name, date of delivery, quantity of each grade, point of origin, and the manifest or loading ticket number. The required retention on-site of the loading ticket, manifest or delivery receipt shall be limited to the four (4) most recent records for each grade of product.

5. The provisions of paragraph (3)(C)2. of this rule shall not apply to transfers made to storage tanks equipped with floating roofs or their equivalent.

6. The provisions of paragraphs (3)(C) 1.–4. of this rule shall not apply to stationary storage tanks having a capacity less than or equal to two thousand (2,000) gallons used exclusively for the fueling of implements of agriculture or were installed prior to June 12, 1986.

(D) Gasoline Delivery Vessels.

1. No owner or operator of a gasoline delivery vessel shall operate or use a gasoline delivery vessel which is loaded or unloaded

at an installation subject to subsections (3)(B) or (C) of this rule unless—

A. The delivery vessel is tested annually to demonstrate compliance with the test method specified in 40 CFR part 63, subpart R, section 63.425(e);

B. The owner or operator obtains the completed test results signed by a representative of the testing facility upon successful completion of the leak test. Blank test certification application forms for the test results will be provided to the testing facilities by the department. After the effective date of this rule, any revision to the department supplied forms will be presented to the regulated community for a forty-five (45)-day comment period. The owner or operator shall send a copy of the signed successful test results to the staff director. The staff director, upon receipt of acceptable test results, shall issue an official sticker to the owner or operator;

C. The Missouri sticker is placed on the upper left portion of the back end of the vessel;

D. The delivery vessel is repaired by the owner or operator and retested within fifteen (15) days of testing if it does not meet the leak test criteria of paragraph (3)(D)1. of this rule; and

E. A copy of the vessel's current Tank Truck Tightness Test results are kept with the delivery vessel at all times and made immediately available to the staff director upon request.

2. An owner or operator of a gasoline delivery vessel who can demonstrate to the satisfaction of the staff director that the vessel has passed a current annual leak test in another state shall be deemed to have satisfied the requirements of subparagraph (3)(D)1.A. of this rule, if the other state's leak test program requires the same gauge pressure and test procedures as the test specified in subparagraph (3)(D)1.A. of this rule. The owner or operator shall apply for a Missouri sticker and display the Missouri sticker on the upper left portion of the back end of the delivery vessel.

3. Owners and operators of gasoline delivery vessels shall maintain written records of all tests and maintenance performed on the vessels.

4. This subsection shall not be construed to prohibit safety valves or other devices required by governmental regulations.

(E) Owner/Operator Compliance. The owner or operator of a vapor recovery system subject to this rule shall—

1. Operate the vapor recovery system and the gasoline loading equipment in a manner that prevents—

A. Gauge pressure from exceeding four thousand five hundred (4,500) pascals (eighteen inches (18") of H<sub>2</sub>O) in the delivery vessel;

B. A reading equal to or greater than one hundred percent (100%) of the lower explosive limit (LEL, measured as propane) at two and one-half (2.5) centimeters from all points on the perimeter of a potential leak source when measured by the method referenced in 10 CSR 10-6.030(14)(E) during loading or transfer operations; and

C. Visible liquid leaks during loading or transfer operation;

2. Repair and retest within fifteen (15) days, a vapor recovery system that exceeds the limits in subsection (3)(E) of this rule; and

3. Maintain written records of inspection reports, enforcement documents, gasoline deliveries, routine and unscheduled maintenance and repairs and all results of tests conducted.

(4) Reporting and Record Keeping. The reporting and record keeping requirements are located in paragraphs (3)(A)3., (3)(B)3., (3)(C)4., (3)(D)3. and (3)(E)3. of this rule. In addition, all records shall be maintained for a minimum of two (2) years, and shall be made immediately available to inspectors upon request.

(5) Test Methods.

(A) Testing and monitoring procedures to determine compliance with subsection (3)(D) of this rule and confirm the continuing existence of leak-tight conditions shall be conducted using the method referenced in 10 CSR 10-6.030(14)(B) or by any method determined by the staff director.

(B) Testing procedures to determine compliance with subparagraph (3)(B)2.A. of this rule shall be conducted using the method referenced in 10 CSR 10-6.030(14)(A) or by any method determined by the staff director.

(C) The staff director, at any time, may monitor a delivery vessel, vapor recovery system or gasoline loading equipment by a method determined by the staff director to confirm continuing compliance with this rule.

(D) A static leak decay test of the Stage I vapor recovery system shall be required once every five (5) years to demonstrate system vapor tightness. In addition, a bench test of each pressure/vacuum valve shall be required once every two (2) years to demonstrate component vapor tightness.

(E) Additional testing may also be required by the staff director in order to determine proper functioning of vapor recovery equipment.



AUTHORITY: section 643.050, RSMo 2000.\* Original rule filed Jan. 15, 1979, effective June 11, 1979. Amended: Filed Oct. 15, 1979, effective March 13, 1980. Amended: Filed March 13, 1980, effective Sept. 12, 1980. Amended: Filed Nov. 2, 1984, effective May 11, 1985. Amended: Filed Feb. 4, 1986, effective May 29, 1986. Amended: Filed Sept. 1, 1987, effective Dec. 24, 1987. Amended: Filed Nov. 27, 1989, effective May 24, 1990. Amended: Filed May 15, 1995, effective Dec. 30, 1995. Amended: Filed Dec. 1, 2000, effective July 30, 2001. Amended: Filed April 1, 2002, effective Nov. 30, 2002. Amended: Filed Aug. 15, 2003, effective April 30, 2004.

\*Original authority: 643.050, RSMo 1965, amended 1972, 1992, 1993, 1995.

10 CSR 10-2.270 Restriction of Emissions From Catalytic Cracking Units (Rescinded November 23, 1987)

AUTHORITY: section 643.050, RSMo 1986. Original rule filed July 16, 1979, effective Feb. 11, 1980. Rescinded: Filed Aug. 4, 1987, effective Nov. 23, 1987.

10 CSR 10-2.280 Control of Emissions From Perchloroethylene Dry Cleaning Installations (Rescinded January 30, 2003)

AUTHORITY: Chapter 203, RSMo 1986. Original rule filed March 13, 1980, effective Sept. 12, 1980. Amended: Filed Nov. 10, 1981, effective May 13, 1982. Rescinded: Filed May 21, 2002, effective Jan. 30, 2003.

10 CSR 10-2.290 Control of Emissions From Rotogravure and Flexographic Printing Facilities

PURPOSE: This regulation restricts volatile organic compound emissions from rotogravure and flexographic printing facilities.

(1) Application.

(A) This regulation shall apply throughout Clay, Jackson and Platte Counties.

(B) This regulation applies to installations with uncontrolled potential emissions equal to or greater than two hundred fifty kilograms (250 kg) per day or one hundred (100) tons per year of volatile organic compounds (VOC) from the combination of rotogravure and flexographic printing presses. The uncontrolled potential emissions are the potential emissions (as defined) plus the amount by

weight of VOCs whose emission into the atmosphere is prevented by the use of air pollution control devices.

(2) Definitions.

(A) Definitions of certain terms specified in this regulation may be found in 10 CSR 10-6.020.

(B) The definition of a term specific to this regulation is as follows: ink formulation, as applied, includes the base ink and any additives, such as thinning solvents, to make up the ink material that is applied to a substrate.

(3) Emission Limits.

(A) No owner or operator shall use or permit the use of any of the following printing presses unless they are equipped with a control device. The control device shall remove, destroy or prevent the emission of VOCs into the ambient air by at least the percentage indicated by weight of the uncontrolled VOC emissions on a daily basis.

| Printing Press          | Percentage |
|-------------------------|------------|
| Flexographic            | 60         |
| Publication Rotogravure | 75         |
| Other Rotogravure       | 65         |

(B) Low solvent technology may be used to achieve VOC emission reductions instead of the methods required in subsection (3)(A). If low solvent technology is used, the following limits must be met for each press:

1. For waterborne inks, the volatile portion of the ink as applied to the substrate must contain no more than twenty-five percent (25%) by volume of VOC; and

2. For water-based or high solids inks, the ink as applied to the substrate must be at least sixty percent (60%) by volume non-VOC material.

(C) No owner or operator shall use or permit the use of any flexographic or rotogravure printing press that uses cleanup solvents containing VOCs unless—

1. The cleanup solvents are kept in tightly covered tanks or containers during transport and storage;

2. The cleaning cloths used with the cleanup solvents are placed in tightly closed containers when not in use and while awaiting off-site transportation. The cleaning cloths should be properly cleaned and disposed of. The cloths, when properly cleaned or disposed of, are processed in a way that as much of the solvent as practicable is removed for some further use or destroyed. Cleaning and disposal methods shall be approved by the director; and

3. An owner or operator may use an alternate method for reducing cleanup solvent

VOC emissions, including the use of low VOC cleanup solvents, if the owner or operator shows the emission reduction is equal to or greater than paragraphs (3)(C)1. and 2. This alternate method must be approved by the director.

(4) Recordkeeping.

(A) For owners or operators using an add-on control device(s) to meet the requirements of subsection (3)(A), the following parameters shall be monitored and recorded to determine compliance with subsection (3)(A):

1. Exhaust gas temperature of all incinerators or temperature rise across a catalytic incinerator bed on a continuous basis;

2. VOC breakthrough on a carbon adsorption unit on a continuous basis;

3. Results of emissions testing as required in section (5) of this regulation when performed;

4. Maintenance, repairs and malfunction of any air pollution control equipment when performed; and

5. Any other monitoring parameter required by the director to determine compliance with subsection (3)(A).

(B) For owners or operators meeting the requirements of subsection (3)(B) for each ink formulation used, the following shall be recorded for each press to determine continuous compliance with subsection (3)(D):

1. Volume-weighted ink VOC content in percent by volume for each ink formulation as applied on a monthly basis;

2. Results of ink testing as required in section (5) of this rule when performed; and

3. Any other information required by the director to determine compliance with subsection (3)(B).

(C) For owners and operators using low solvent technology without the use of control equipment to meet the requirements of subsection (3)(B), and for who subsection (4)(B) does not apply, the following shall be recorded to determine daily compliance with subsection (3)(B):

1. Volume-weighted ink VOC content in percent by volume for each ink formulation as applied on a monthly basis;

2. Ink usage in gallons for each ink formulation as applied on a daily basis for each press;

3. Volume-weighted density of VOCs in ink in pounds per gallon for each ink formulation as applied on a daily basis;

4. Volume-weighted average of the VOC content of each ink formulation as applied in percent by volume for each press on a daily basis;

5. Ink water content in percent by volume for each ink formulation as applied on a daily basis for each press;



6. Ink exempt solvent content in percent by volume for each ink formulation as applied on a daily basis for each press;

7. Results of ink testing as required in section (5) of this regulation when performed; and

8. Any other information required by the director to determine compliance with subsection (3)(B).

(D) Records of all information required in subsections (4)(A)–(C) shall be kept for at least two (2) years. These records shall be available immediately upon request for review by Department of Natural Resources personnel and other air pollution control agencies with proper authority.

(5) Determination of Compliance.

(A) Testing and compliance demonstrations for the emission limits of subsection (3)(A) shall follow the procedures contained in 10 CSR 10-6.030(14)(A) and 10 CSR 10-6.030(20). The averaging time for these tests shall be three (3) one (1)-hour tests. These procedures will determine control device capture efficiency and destruction efficiency. Control device testing will be required as the director determines necessary to verify the capture and destruction efficiencies. At a minimum, control device testing must be completed and submitted once to the appropriate air pollution control agency within one hundred eighty (180) days (August 4, 1992) after this provision of the regulation is effective (February 6, 1992), unless the director determines that a valid test is already on file. Inlet and outlet gas temperature rise across a catalytic incinerator shall be used to determine daily compliance. These temperatures shall be monitored with an accuracy of the greater of plus or minus three-fourths percent ( $\pm 0.75\%$ ) of the temperature being measured expressed in degrees Celsius or two and one-half degrees Celsius ( $2.5^{\circ}\text{C}$ ).

(B) Testing and compliance demonstrations for the emission limits of subsection (3)(B) shall follow the procedures contained in 10 CSR 10-6.030(14)(C). This procedure will determine the VOC content of inks. Ink testing will be required as the director determines necessary to verify the manufacturer's formula specifications. At a minimum, ink testing will be required once after this provision of the regulation is effective (February 6, 1992). Ink manufacturer's formula specifications shall be used to determine daily compliance.

(6) Compliance Dates.

(A) The owner or operator of a rotogravure or flexographic printing installation subject to this regulation must submit a final control plan to the director by December 31, 1980

for his/her approval. This plan must include the following:

1. A detailed plan of process modifications; and

2. A time schedule for compliance containing increments of progress and a final compliance date.

(B) Compliance with this regulation shall be accomplished by any installation as expeditiously as practicable, but in no case shall final compliance extend beyond December 31, 1982.

*AUTHORITY: section 643.050, RSMo 1986. \* Original rule filed March 13, 1980, effective Sept. 12, 1980. Amended: Filed July 1, 1987, effective Dec. 24, 1987. Amended: Filed July 15, 1991, effective Feb. 6, 1992.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, transferred from 203.050 in 1986, 643.050, RSMo 1992, 1993.*

**10 CSR 10-2.300 Control of Emissions From the Manufacturing of Paints, Varnishes, Lacquers, Enamels and Other Allied Surface Coating Products**

*PURPOSE: This regulation specifies operating equipment requirements and operating procedures for the reduction of volatile organic compounds from the manufacture of paints, varnishes, lacquers, enamels and other allied surface coating products in the Kansas City metropolitan area.*

(1) Application.

(A) This regulation shall apply throughout Clay, Jackson and Platte Counties.

(B) This regulation applies to those installations which have the uncontrolled potential to emit more than two hundred fifty kilograms per day (250 kg/day) or one hundred (100) tons per year of volatile organic compounds (VOC) from the manufacture of paints, varnishes, lacquers, enamels and other allied surface coating products. This does not include any installation which does not have an allowable VOC emission limit established under 10 CSR 10-6.060 or legally enforceable state implementation plan revision and which has uncontrolled potential emissions less than two hundred fifty (250) kg/day or one hundred (100) tons per year. The uncontrolled potential to emit is the potential emissions (as defined) plus the emissions removed by control devices.

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

(3) General Provisions. No owner or operator of a manufacturing installation subject to this regulation and producing the products listed in section (1) shall cause or allow the manufacture of these products unless the operating equipment meets the requirements contained in this regulation and without adhering to operating procedures recommended by the equipment manufacturer and approved by the director.

(4) Operating Equipment and Operating Procedure Requirements.

(A) Tanks storing VOC with a vapor pressure greater than or equal to ten kilo pascals (10 kPa) (1.5 psi) at twenty degrees Celsius ( $20^{\circ}\text{C}$ ), shall be equipped with pressure/vacuum conservation vents set at 0.2 kPa (.029 psi), except where more effective air pollution control is used and has been approved by the director. Stationary VOC storage containers with a capacity greater than two hundred fifty (250) gallons shall be equipped with a submerged-fill pipe or bottom fill, except where more effective air pollution control is used and has been approved by the director.

(B) Covers shall be installed on all open-top tanks used for the production of non-waterbase coating products. These covers shall remain closed except when production, sampling, maintenance or inspection procedures require operator access.

(C) Covers shall be installed on all tanks containing VOC used for cleaning equipment. These covers shall remain closed except when operator access is required.

(D) All vapors from varnish cooking operations shall be collected and passed through a control device which removes at least eighty-five percent (85%) of the VOCs from these vapors before they are discharged to the atmosphere.

(E) All grinding mills shall be operated and maintained in accordance with manufacturer's specifications. The manufacturer's specifications shall be kept on file and made available to the director upon his/her request.

(F) The polymerization of synthetic varnish or resin shall be done in a completely enclosed operation with the VOC emissions controlled by the use of surface condensers or equivalent controls.

1. If surface condensers are used, the temperature of the exit stream shall not exceed the temperature at which the vapor pressure is 3.5 kPa (0.5 psi) for any organic compound in the exit stream.

2. If equivalent controls are used, the VOC emissions must be reduced by an amount equivalent to the reduction which would be achieved under paragraph (4)(F)1. Any owner or operator desiring to use



equivalent controls to comply with this subsection shall submit proof of equivalency as part of the control plan required under subsection (5)(A) of this regulation. Equivalent controls may not be used unless approved by the director.

(5) Compliance Dates.

(A) The owner or operator of a paint, varnish, lacquer, enamel or other allied surface coating production installation subject to this regulation shall submit a final control plan to the director for his/her approval no later than January 25, 1988. This plan shall include a time schedule for compliance containing an engineering design, increments of progress final compliance and testing dates.

(B) Compliance with this regulation shall be accomplished by affected installations promptly, but in no case later than March 31, 1988.

(6) Compliance Methods and Recordkeeping.

(A) The VOC control efficiency in subsections (4)(D) and (F) shall be determined by the testing methods referenced in 10 CSR 10-6.030(14)(A). The same method shall be used to sample emissions from alternate control measures subject to the director's review in subsection (4)(A).

(B) Owners or operators utilizing add-on control technology shall monitor the following parameters continuously while the affected equipment is in operation:

1. Exit stream temperature on all condensers;
2. Routine and unscheduled maintenance and repair activities on all air pollution control equipment; and
3. Any other parameter which the director determines is necessary to quantify emissions or otherwise determine compliance with this regulation.

(C) Records shall be kept on production rates sufficient to determine daily VOC emissions and any equipment test results performed in conjunction with this regulation.

(D) The owner or operator shall maintain all recorded information required under subsections (6)(B) and (C) and shall keep the records for a period of not less than two (2) years. All these records shall be made available to the director upon his/her request.

*AUTHORITY: section 643.050, RSMo 1986.\* Original rule filed April 2, 1986, effective Sept. 26, 1986. Amended: Filed April 2, 1987, effective Aug. 27, 1987. Amended: Filed Aug. 4, 1987, effective Dec. 12, 1987.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, transferred from 203.050 in 1986, 1992, 1993.*

**10 CSR 10-2.310 Control of Emissions From the Application of Automotive Underbody Deadeners**

*PURPOSE: This regulation restricts emissions of volatile organic compounds from the application of automotive underbody deadeners.*

(1) Applicability.

(A) This regulation shall apply throughout Clay, Jackson and Platte Counties.

(B) This regulation applies to all installations which have the uncontrolled potential to emit more than one hundred (100) tons per year or two hundred fifty kilograms per day (250 kg) of volatile organic compounds (VOC) from the application of automotive underbody deadeners. This regulation also shall apply to any installation which does not have an allowable VOC emission limit established under 10 CSR 10-6.060 or legally enforceable state implementation plan revision and which has uncontrolled potential emissions greater than or equal to two hundred fifty (250) kg/day or one hundred (100) tons per year. The uncontrolled potential to emit is the potential emissions (as defined) plus the emissions removed by control devices.

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

(3) General Provisions.

(A) No person shall emit to the atmosphere any VOC from the application of automotive underbody deadeners in excess of the emission limit in section (4).

(B) The emission limit contained in section (4) shall be based on a daily weighted average of all deadeners delivered to the coating applicator.

(4) Emission Limit and Compliance Date.

| Application Process                     | Emission Limit                          | Compliance Date |
|---|---|-----------------|
| General Motors Auto Underbody Deadeners | 2.2 #VOC/Gal. of Deadener (minus water) | 12/31/87        |

(5) Recordkeeping.

(A) The owner or operator of a deadener application operation covered by this regulation must maintain daily records of the composition and amount of deadener used, the amount of solvent used, the amount of clean-up solvent used and discarded and any other information necessary to determine compliance with this rule or to quantify VOC emissions.

(B) Records of all information required in subsection (5)(A) shall be kept for a period of not less than two (2) years and all these records shall be made available to the director upon his/her request.

(6) Compliance Method. Compliance with this regulation shall be demonstrated using the test method referenced at 10 CSR 10-6.030(14)(C) to determine deadener composition. The deadener manufacturer's formulation data may be used to demonstrate compliance, but only after confirmation by the test method previously referenced.

*AUTHORITY: section 643.050, RSMo 1986.\* Original rule filed July 1, 1987, effective Nov. 23, 1987.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, transferred from 203.050 in 1986, 1992, 1993.*

**10 CSR 10-2.320 Control of Emissions From Production of Pesticides and Herbicides**

*PURPOSE: This regulation restricts emissions of volatile organic compounds from the production of pesticides and herbicides.*

(1) Applicability.

(A) This regulation shall apply throughout Clay, Jackson and Platte Counties.

(B) This regulation shall apply to any pesticide or herbicide manufacturing installation with an uncontrolled potential to emit equal to or greater than two hundred fifty kilograms per day (250 kg/day) or one hundred (100) tons per year of volatile organic compounds (VOC). This regulation also shall apply to any installation which does not have an allowable VOC emission limit established under 10 CSR 10-6.060 or legally enforceable state implementation plan revision and which has uncontrolled potential emissions greater than or equal to two hundred fifty kilograms per day (250 kg/day) or one hundred (100) tons per year of VOC. The uncontrolled potential to emit is the potential emissions (as defined) plus the emissions removed by control devices.

(C) This regulation does not apply to source operations used exclusively for chemical or physical analysis of determinations of product quality and commercial acceptance (such as pilot plant operations and laboratories) unless the operation is an integral part of the production process.

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



(3) General Provisions. All source operations in installations affected by this regulation that are venting emissions to VOC emission control devices as of November 23, 1987 shall be required to continue venting emissions to these control devices and these emissions shall be controlled to the extent required in section (4) of this regulation.

(4) Emission Limitations. Any pesticide or herbicide manufacturing installation VOC emissions control devices subject to this regulation must achieve an instantaneous VOC destruction or removal efficiency greater than or equal to ninety-nine percent (99%).

(5) Recordkeeping.

(A) Owners or operators utilizing thermal oxidizers as control technology must maintain adequate records of the combustion chamber temperature and residence time to determine the VOC control compliance. Also, the owners or operators must maintain records of routine or unscheduled maintenance and repairs of the thermal oxidizers. The director may require any other records of operating parameters as may be necessary to determine compliance.

(B) Owners or operators using other control technology shall maintain records of all operating parameters and routine or unscheduled maintenance and repairs of air pollution control equipment as may be required by the director to determine compliance.

(C) Records of all information required in subsections (4)(A) and (B) shall be kept for a period of not less than two (2) years and all these records shall be made available to the director upon his/her request.

(6) Compliance Method.

(A) For any control technology employed to comply with this regulation, compliance shall be determined by the test methods referenced in 10 CSR 10-6.030(14)(A) for VOC.

(B) For thermal oxidizers, compliance shall be determined by the combustion chamber temperature and residence time after adequate test results, as determined by the director, are provided by the owners or operators. These test results shall be subject to periodic confirmation at the discretion of the director. Combustion chamber gas temperature shall be monitored with an accuracy of the greater of  $\pm 0.75\%$  of the temperature being measured expressed in degrees Celsius or 2.5 degrees Celsius.

(7) Compliance Date. Compliance with this regulation by any installation subject to this

regulation shall occur no later than November 23, 1987.

*AUTHORITY: section 643.050, RSMo 1986. \* Original rule filed July 1, 1987, effective Nov. 23, 1987.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, transferred from 203.050 in 1986, 1992, 1993.*

**10 CSR 10-2.330 Control of Gasoline Reid Vapor Pressure**

*PURPOSE: This rule limits the volatility of motor vehicle gasoline in the Kansas City maintenance area. By reducing the amount of gasoline that evaporates into the atmosphere, emissions of volatile organic compounds will be reduced. Since volatile organic compounds are precursors to ozone formation, ambient ozone levels will be reduced. This rule is intended to reduce emissions in the maintenance area as quickly as possible to reduce the risk of further ozone violations, which may prompt redesignation and/or sanctions from the Environmental Protection Agency (EPA).*

(1) Applicability. This rule shall apply throughout Clay, Platte and Jackson counties.

(2) Definitions. Definitions of certain terms used in this rule can be found in 10 CSR 10-6.020.

(3) General Provisions and Effective Dates of Compliance.

(A) No person shall sell, dispense, supply, offer for sale, offer for supply, transport or exchange in trade for use gasoline intended for final use in the applicable areas that exceeds the Reid Vapor Pressure (RVP) limit in subsection (3)(B).

(B) The RVP of gasoline subject to this rule shall be restricted starting in 2001 as follows:

| RVP (psi)       | Facility       | Time Period                 |
|-----------------|----------------|-----------------------------|
| 7.0 psi or less | All facilities | June 1 through September 15 |

(C) Gasoline blends having at least nine percent (9%) but not more than ten percent (10%) ethyl alcohol by volume of the blended mixture shall have an RVP limit of one (1) pound per square inch (psi) higher than the limit contained in subsection (3)(B).

(4) Gasoline Sampling Procedures. Gasoline sampling shall follow the procedures outlined

in "Sampling Procedures for Fuel Volatility," 40 CFR part 80, Appendix D.

(5) Gasoline Testing Procedures for RVP and Determination of Compliance.

(A) Gasoline testing shall follow the procedures contained in "Tests for Determining Reid Vapor Pressure (RVP) of Gasoline and Gasoline-Oxygenate Blends," 40 CFR, part 80, Appendix E.

(B) To determine compliance when field analysis indicates the RVP is between seven and zero-tenths (7.0) psi and seven and three-tenths (7.3) psi for conventional gasoline or between eight and zero-tenths (8.0) psi and eight and three-tenths (8.3) psi for nine to ten percent (9%–10%) ethyl alcohol blends, Missouri Department of Natural Resources (MDNR) will conduct additional testing. Additional testing shall include independent analysis by three (3) separate laboratories of three (3) independent samples taken sequentially, in accordance with sections (4) and (5) of this rule. If all of the measured RVP of the samples are above seven and zero-tenths (7.0) psi for conventional gasoline or above eight and zero-tenths (8.0) psi for nine to ten percent (9%–10%) ethyl alcohol blends, the department may take enforcement action.

(6) Record Keeping.

(A) All persons subject to this rule shall maintain records of any RVP testing and test results during the compliance period specified in section (3). These records shall be kept for at least two (2) years after the date of a completed RVP test. These records shall be made available immediately upon request for review or duplication by Department of Natural Resources personnel and city and county personnel certified under section 643.140, RSMo.

(B) Each bill of lading, invoice, loading ticket, delivery ticket, and other document that accompanies a shipment of gasoline (which includes gasoline blended with ethyl alcohol) shall contain a legible and conspicuous statement that the RVP of the gasoline does not exceed seven and zero-tenths (7.0) psi, in accordance with this rule for conventional gasoline, or that the RVP does not exceed eight and zero-tenths (8.0) psi for nine to ten percent (9%–10%) ethyl alcohol blends.

(C) Each bill of lading, invoice, loading ticket, delivery ticket, and other document which accompanies a shipment of gasoline containing ethyl alcohol shall contain a legible and conspicuous statement that the gasoline being shipped contains ethyl alcohol and that the percentage concentration of ethyl alcohol is between nine percent to ten percent



(9%–10%), as required under subsection (3)(C) of this rule.

(D) All persons subject to this rule shall keep records of the bill of lading, invoice, loading ticket, delivery ticket, and other documents accompanying a shipment of gasoline during the compliance period specified in section (3). These records shall be kept for at least two (2) years after the date of delivery. These records shall be made available immediately upon request for review or duplication by Department of Natural Resources personnel and city and county personnel certified under section 643.140, RSMo.

(E) The director may require additional record keeping on a case-by-case basis. The director may require records be kept for additional periods of time for enforcement compliance.

(7) Violations and Penalties. Persons violating this rule shall be subject to enforcement action as authorized in sections 643.085 and 643.151, RSMo.

(8) Exemptions.

(A) Gasoline that exceeds the RVP limits will not violate this rule if the gasoline is separately stored, sealed, clearly labeled and not used until it is in compliance with this rule. The label shall state that the gasoline is prohibited by Missouri law from being sold, dispensed, supplied, offered for sale, offered for supply, transported or exchanged in trade until the specific date that the gasoline shall be in compliance with this rule.

(B) An individual consumer of gasoline who dispenses gasoline into his/her personal motor vehicle is exempt from this rule.

(C) Gasoline used only to fuel agricultural vehicles on property zoned for agricultural use is exempt from this rule.

(D) Owners and operators of facilities that only dispense gasoline into individual motor vehicles are not required to conduct the RVP testing specified in section (5).

(E) Federal specification reformulated gasoline (RFG) fully satisfies the requirements of section (3) of this rule.

*AUTHORITY: section 643.050, RSMo Supp. 1999.\* Original rule filed Jan. 3, 1991, effective Aug. 30, 1991. Rescinded: Filed March 15, 1995, effective Nov. 30, 1995. Readopted: Filed March 17, 1997, effective Oct. 30, 1997. Amended: Filed Sept. 26, 2000, effective May 30, 2001.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, transferred from 203.050 in 1986, 1992, 1993, 1995.*

**10 CSR 10-2.340 Control of Emissions From Lithographic Printing Installations**

*PURPOSE: This regulation restricts volatile organic compound emissions from lithographic printing facilities.*

(1) Applicability.

(A) This regulation shall apply throughout Clay, Jackson and Platte Counties.

(B) This regulation shall apply to installations that have calculated actual volatile organic compound (VOC) emissions for a known number of crewed hours, increased by the amount by weight of VOCs whose emission into the atmosphere is prevented by the use of air pollution control devices and extrapolated to eight thousand seven hundred sixty (8,760) hours per year equal to or greater than one hundred (100) tons per year from offset lithographic printing presses after December 9, 1991. The following factors shall be taken into consideration unless an alternative method is approved by the director:

1. The installation shall assume fifty percent (50%) of the solvent used for cleanup is retained in the rag(s) when the used solvent-laden rag(s) are cleaned or disposed of. The installation must demonstrate to the director that the solvents are not evaporated into the air when the waste rags are properly cleaned and disposed of;

2. The installation shall assume forty percent (40%) of the heatset ink oils stay in the paper web;

3. The installation shall assume no VOCs are emitted from the inks used in sheet-fed presses and nonheatset web presses; and

4. The installation may assume that fifty percent (50%) of the alcohol from the fountain solution is emitted from the dryer.

(C) This regulation shall not apply to—

1. Printing on fabric, metal or plastic;

2. Sheet-fed lithographic presses with cylinder widths of twenty-six inches (26") or less; or

3. Web lithographic presses with cylinder widths of eighteen inches (18") or less.

(2) Definitions.

(A) Alcohol—Refers to isopropanol or isopropyl alcohol;

(B) Coating—In the graphic arts industry, a layer of material that dries or cures by evaporation and is applied to a substrate over ink in a relatively unbroken film;

(C) Fountain solution—The solution which is applied to the image plate to maintain the hydrophilic properties of the nonimage areas.

It is primarily water containing an etchant, gum arabic and a dampening aid;

(D) Heatset—A class of web-offset lithography which requires a heated dryer to evaporate the ink oils and solvents from the printing inks;

(E) Lithographic printing—A printing process where a planographic plate is used with the image area oleophilic and the nonimage area hydrophilic;

(F) Offset—The process that transfers an image from a plate to a rubber blanket cylinder before transfer to the substrate surface to be printed;

(G) Sheet-fed—Printing presses that are fed from a stack of paper sheets instead of a web. Sheet-fed presses generally use coldset inks; and

(H) Web—The substrate printed in a continuous roll-fed printing process.

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

(3) General Provisions.

(A) No owner or operator shall use or permit the use of any offset lithographic printing press unless—

1. The fountain solution contains ten percent (10%) or less by weight of alcohol;

2. The fountain solution is refrigerated to a temperature of fifty-five degrees Fahrenheit (55°F) or less for alcohol-based solutions;

3. The fountain solution temperature at the mixing tank for alcohol-based solutions is monitored during each shift; and

4. The fountain solution mixing tanks are covered for alcohol-based solutions.

(B) No owner or operator shall use or permit the use of any offset lithographic printing press that uses cleanup solvents containing VOCs unless—

1. The cleanup solvents are kept in tightly covered tanks or containers during transport and storage;

2. The cleaning cloths used with the cleanup solvents are placed in tightly closed containers when not in use and while awaiting off-site transportation. The cleaning cloths should be properly cleaned and disposed of. The cloths, when properly cleaned or disposed of, are processed in a way that as much of the solvent, as practicable, is recovered for further use or destroyed. Cleaning and disposal methods shall be approved by the director; and

3. An owner or operator may use an alternate method for reducing cleanup solvent VOC emissions, including the use of low VOC cleanup solvents, if the owner or operator shows the emission reduction is equal to





or greater than those in paragraphs (3)(B)1. and 2. This alternate method must be approved by the director.

(C) No owner or operator shall use or permit the use of any heatset web-offset lithographic printing press that uses a dryer that has ever had an actual emission rate of ten (10) tons per year or more VOCs after December 9, 1991, unless one hundred percent (100%) of the dryer exhaust is ducted to a control device that achieves eighty-five percent (85%) by weight or greater control efficiency.

(D) Use of emission control equipment shall require that continuous monitors be installed, calibrated, operated and maintained. The monitors continuously shall measure—

1. The exhaust gas temperature of all VOC destruction devices and the gas temperature immediately upstream and downstream of any catalytic bed with an accuracy of plus or minus 0.75% measured in degrees Celsius, or 2.5 degrees Celsius;

2. The cumulative amount of VOC recovered during a calendar month for all VOC recovery equipment attached to a dryer with an accuracy of plus or minus two percent ( $\pm 2\%$ ); and

3. Any other parameters considered necessary by the director to verify proper operation of emission control equipment.

(4) Reporting and Record Keeping.

(A) All persons subject to this regulation shall maintain records as required by this section sufficient to determine continuous compliance with this regulation. These records shall be kept for at least two (2) years. These records shall be available immediately upon request for review by Department of Natural Resources personnel and other air pollution control agencies with proper authority.

(B) All persons subject to subsection (3)(C) shall maintain records for each control device sufficient to demonstrate that the control efficiency is being maintained.

(C) For each regulated printing press, records shall be maintained to show—

1. Quantity of alcohol added to the fountain solution of each regulated press in pounds each month;

2. Percent of alcohol in fountain solution by weight as monitored on a once per shift basis;

3. Results of any testing conducted on an emission unit at a regulated installation;

4. Maintenance records of any air pollution control equipment; and

5. The temperature of alcohol-based fountain solution as recorded on a once per shift basis.

(D) For each lithographic installation subject to this regulation, records shall be maintained to show—

1. Properties of heatset inks as applied (determined by the manufacturer's formulation data), density of inks in pounds per gallon, and total VOC content in weight percent;

2. Quantity of heatset inks as applied to substrate in pounds on a monthly basis;

3. Quantity of cleanup solvents used on a monthly basis; and

4. Quantity of coatings used on a monthly basis and percent VOC in coating by weight on a formulation basis.

(E) The director may require other records as reasonable and necessary to carry out the provisions of the Missouri Air Conservation Law.

(F) All persons subject to the provisions of this regulation shall provide to the director for approval a demonstration of final compliance with subsection (3)(A)—

1. Upon startup of presses which are not in existence and operating on December 9, 1991;

2. Within eighteen (18) months (June 9, 1993) after the effective date of this regulation (December 9, 1991) for all presses with a cylinder width of less than sixty inches (60") and all web presses with a cylinder width of sixty inches (60") or greater that are in existence and operating on December 9, 1991; and

3. Within thirty-six (36) months (December 9, 1994) after the effective date of this regulation (December 9, 1991) for all sheet-fed presses with a cylinder width of sixty inches (60") or greater that are in existence and operating on December 9, 1991.

(G) All persons subject to the provisions of this regulation shall provide to the director for approval a demonstration of final compliance with subsections (3)(B) and (C) of this rule—

1. Upon startup of presses which are not in existence and operating on December 9, 1991; and

2. Within eighteen (18) months (June 9, 1993) after the effective date of this regulation for all presses that are in existence and operating December 9, 1991.

(H) All persons subject to the provisions of this regulation and not in compliance with all provisions of this regulation within twelve (12) months (December 9, 1992) from the effective date of this regulation (December 9, 1991) must submit a compliance plan to the director for approval. This plan must be received within six (6) months (June 9, 1992) after the effective date of this regulation (December 9, 1991). This plan must include the following:

1. A detailed plan of process modifications; and

2. A time schedule for compliance containing increments of progress, including:

A. Date of submittal of the source's final control plan to the appropriate air pollution control agency;

B. Date by which contracts for emission control systems or process modifications will be awarded; or date by which orders will be issued for the purchase of component parts to accomplish emission control or process modification;

C. Date of initiation of on-site construction or installation of emission control equipment or process change;

D. Date by which on-site construction or installation of emission control equipment or process modification is to be completed; and

E. Date by which final compliance is to be achieved.

(5) Test Methods.

(A) Testing and compliance demonstrations for subsection (3)(C) of this rule shall follow the procedures contained in Environmental Protection Agency Reference Methods 25 or 25A found in 40 CFR Part 60, Appendix A.

(B) Testing and compliance demonstrations for paragraph (3)(A)1. of this rule shall be based on the results from a calibrated hydrometer or refractometer.

*AUTHORITY: section 643.050, RSMo 2000.\* Original rule filed June 4, 1991, effective Dec. 9, 1991. Amended: Filed Jan. 13, 2003, effective Aug. 30, 2003.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, transferred from 203.050 in 1986, 1992, 1993, 1995.*

**10 CSR 10-2.360 Control of Emissions From Bakery Ovens**

*PURPOSE: This regulation restricts the emission of volatile organic compounds from bakery ovens at large commercial bakeries.*

*PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. Therefore, the material which is so incorporated is on file with the agency who filed this rule, and with the Office of the Secretary of State. Any interested person may view this material at either agency's headquarters or the same will be made available at the Office of the Secretary of State at a cost not to*



exceed actual cost of copy reproduction. The entire text of the rule is printed here. This note refers only to the incorporated by reference material.

(1) Definitions. Definitions of some of the terms used in this rule may be found in 10 CSR 10-6.020 Definition and Common Reference Tables.

(2) Applicability.

(A) This rule shall apply only in Clay, Platte and Jackson Counties.

(B) This rule shall apply to existing commercial bakeries whose potential emissions of volatile organic compounds (VOCs) are greater than one hundred tons per year (100 tpy). These bakeries shall demonstrate compliance with this rule by January 1, 1997.

(C) This rule shall apply to new or modified commercial bakeries whose potential emissions of VOCs are greater than one hundred (100) tpy upon start-up.

(3) Requirement. Existing or new commercial bakeries which meet the applicability level in subsections (2)(A), (B) and (C) shall install VOC emissions control device(s) in order to achieve at least ninety percent (90%) destruction and capture efficiencies or achieve at least eighty percent (80%) total removal efficiency on the combined emissions of all baking ovens.

(4) Determination of Compliance. Compliance with this rule shall be determined by the following methods:

(A) The destruction efficiency shall be determined by using Environmental Protection Agency (EPA) Test Method 25A or another equivalent method that is approved by the director.

(B) The amount of VOC per ton of baked bread shall be based on the EPA emission factors published in the Environmental Protection Agency document entitled "Alternative Control Technology Document for Bakery Oven Emissions," EPA 453/R-92-017, December 1992, or administrator-approved alternative methods determined through stack testing or administrator-approved industry literature. Alternative methods must be approved by the director.

(C) The capture efficiency of the air pollution control device shall be determined using the method referenced in 10 CSR 10-6.030(20) or by an administrator-approved alternative method. Alternative methods must be approved by the director.

(5) Recordkeeping.

(A) The owner or operator of a bakery oven shall maintain a daily record of operations. The daily records shall include at least:

1. The amount of raw material processed;
2. The percentage of yeast used;
3. The fermentation time;
4. The type of product baked;
5. The amount of product baked;
6. The emission factor used for each product; and
7. The quarterly emissions.

(B) Bakery owners or operators employing VOC emission control device(s) shall, as applicable, continuously monitor and record the following parameters of such device(s) while the bakery oven is in operation:

1. Exhaust temperature of all combustion devices, if used. Combustion devices must be operated at temperatures high enough to achieve optimum destruction efficiency. The optimum operating temperatures will be established by the department at the time of compliance determination;
2. Temperature rise across a catalytic oxidation bed, if used;
3. Exit stream temperature on all condensers, if used; and
4. Any other monitoring parameters as found necessary by the director.

(C) Records under subsections (5)(A) and (B) shall be retained by the owner or operator for a minimum of five (5) years. These records shall be made available to the representatives of the Missouri Department of Natural Resources upon request.

(6) Compliance Schedules. Any bakery owner or operator of an existing source subject to this rule shall submit a compliance plan to the director within three (3) months of the rule effective date. The compliance plan shall include, but shall not be limited to, control device description, testing protocol, date of compliance, and an operating and maintenance plan for the control device(s). The owner or operator must implement the approved plan and demonstrate compliance with this rule by January 1, 1997.

*AUTHORITY: section 643.050, RSMo 1994. \* Original rule filed May 15, 1995, effective Dec. 30, 1995.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, 1992, 1993.*

### **10 CSR 10-2.385 Control of Heavy Duty Diesel Vehicle Idling Emissions**

*PURPOSE: The purpose of this rulemaking is to implement restrictions on the idling of*

*heavy duty diesel vehicles in the Kansas City Ozone Maintenance Area. The evidence supporting the need for this proposed rulemaking, per section 536.016, RSMo, is the federally approved 2007 Kansas City Maintenance Plan for the Control of Ozone.*

(1) Applicability.

(A) This regulation applies throughout Clay, Platte, and Jackson Counties.

(B) This regulation applies to owners or operators of commercial, public and institutional heavy duty diesel vehicles that are designed to operate on public streets and highways, whether or not the vehicles are operated on public roadways.

(C) Passenger vehicles as defined in subsection (2)(H) of this rule are exempt from this rule.

(2) Definitions.

(A) Auxiliary Power Unit (APU)—An integrated system that—

1. Provides heat, air conditioning, engine warming, or electricity to components on a heavy duty vehicle; and
2. Is certified by the Administrator under part 89 of title 40, *Code of Federal Regulations* (or any successor regulation), as meeting applicable emissions standards.

(B) Commercial Vehicle—Any motor vehicle, other than a passenger vehicle, and any trailer, semitrailer, or pole trailer drawn by such motor vehicle, that is designed, used, and maintained for the transportation of persons or property for hire, compensation, profit, or in the furtherance of a commercial enterprise.

(C) Gross Vehicle Weight Rating (GVWR)—The value specified by the manufacturer as the maximum design loaded weight of a single vehicle.

(D) Heavy Duty Diesel Vehicle—A vehicle that—

1. Has a gross vehicle weight rating greater than ten thousand pounds (10,000 lbs.);
2. Is powered by a diesel engine; and
3. Is designed primarily for transporting persons or property on a public street or highway.

(E) Idling—The operation of an engine where the engine is not engaged in gear.

(F) Institutional Vehicles—Any motor vehicle, other than a passenger vehicle, and any trailer, semitrailer, or pole trailer drawn by such a motor vehicle, that is designed, used, and maintained for the transportation of persons or property for an establishment, foundation, society, or the like, devoted to the promotion of a particular cause or program especially one of a public, educational, or charitable character.



(G) Load/Unload Locations—Distribution centers, warehouses, retail stores, railroad facilities, ports, and any other sites where heavy duty diesel vehicles may idle their engines while waiting to load or unload.

(H) Passenger Vehicle—Every motor vehicle, except motorcycles, motor-driven cycles, and ambulances, designed for carrying ten (10) passengers or less and used for the transportation of persons.

(I) Public Vehicles—Any motor vehicle, other than a passenger vehicle, and any trailer, semitrailer, or pole trailer drawn by such a motor vehicle, which is designed, used, and maintained for the transportation of persons or property at the public expense and under public control.

(J) 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) Passenger load/unload locations. No passenger load/unload location owner or operator shall cause or allow vehicles covered by this rule to idle for a period greater than five (5) minutes in any sixty (60)-minute period.

(B) Requirement for heavy duty diesel vehicles. No owner/operator of a heavy duty diesel vehicle covered by this rule shall idle the vehicle for more than five (5) minutes in any sixty (60)-minute period except as noted in subsection (3)(C) of this rule.

(C) Exempt idling activities. The following activities are exempt from 10 CSR 10-2.385:

1. A heavy duty diesel vehicle idling while forced to remain motionless because of road traffic, an official traffic control device or signal, or at the direction of a law enforcement official;

2. A heavy duty diesel vehicle idling when operating defrosters, heaters, air conditioners, safety lights, or other equipment solely to prevent a safety or health emergency;

3. A police, fire, ambulance, public safety, utility service vehicle, military, other emergency or law enforcement vehicle, or any heavy duty diesel vehicle being used in an emergency capacity, idling while in an emergency or training mode, and not for the convenience of the heavy duty diesel vehicle operator;

4. The primary propulsion engine idling for maintenance, servicing, repairing, or diagnostic purposes if idling is necessary for such activity or if idling of the primary propulsion engine is being conducted in accordance with the manufacturer's recommendations;

5. A heavy duty diesel vehicle idling as part of a state or federal inspection to verify that all equipment is in good working order, provided idling is required as part of the

inspection;

6. A primary propulsion engine idling when necessary to power work related mechanical or electrical operations other than propulsion (e.g., mixing, operating hydraulic lifts, processing cargo, or straight truck refrigeration). This exemption does not apply when idling for cabin comfort or to operate non-essential on-board equipment;

7. An armored vehicle idling when a person remains inside the vehicle to guard the contents, or while the vehicle is being loaded or unloaded;

8. A bus idling for no greater than fifteen (15) minutes in any sixty (60)-minute period to maintain passenger comfort while non-driver passengers are onboard;

9. An occupied heavy duty diesel vehicle with a sleeper berth compartment idling for purposes of air conditioning or heating during government mandated rest periods;

10. A heavy duty diesel vehicle idling due to mechanical difficulties over which the driver has no control;

11. Heavy duty diesel vehicles used exclusively for agricultural operations and only incidentally operated or moved upon public roads;

12. Operating an auxiliary power unit as an alternative to idling the main engine; and

13. A heavy duty diesel vehicle idling for no greater than thirty (30) minutes in any sixty (60)-minute period while waiting to load or unload at a freight load/unload location.

(4) Reporting and Record Keeping. (*Not Applicable*)

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

*AUTHORITY: section 643.050, RSMo 2000.\* Original rule filed July 11, 2008, effective Feb. 28, 2009.*

*Original authority: 643.050, RSMo 1965, amended 1972, 1992, 1993, 1995.*

**10 CSR 10-2.390 Kansas City Area Transportation Conformity Requirements**

*PURPOSE: This rule implements section 176(c)(4)(E) of the Clean Air Act (CAA), as amended (42 U.S.C. 7401-7671q.), and the related requirements of 23 U.S.C. 109(j), with respect to the conformity of transportation plans, programs, and projects which are developed, funded, or approved by the United States Department of Transportation (DOT), and by metropolitan planning organizations (MPOs) or other recipients of funds under Title 23 U.S.C. or the Federal Transit Laws (49 U.S.C. Chapter 53). This rule sets forth policy, criteria, and procedures for demonstrating and assuring conformity of such*

*activities to the applicable implementation plan, developed pursuant to section 110 and Part D of the CAA. This rule would apply to the Kansas City attainment area should Kansas City violate the standard and be redesignated as nonattainment.*

*PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.*

(1) Applicability.

(A) If any Missouri portion of the Kansas City metropolitan area is redesignated as a nonattainment area for any transportation-related criteria pollutant, the provisions of this rule shall apply to the Missouri counties and the portions of Missouri counties located within the redesignated nonattainment area.

(B) This rule meets the requirements for state transportation conformity state implementation plans as provided in section 6011(f)(4) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. This regulation addresses and gives full legal effect to the following three (3) requirements of the Federal Transportation Conformity Rule, 40 CFR part 93 subpart A: 1) 40 CFR 93.105, which addresses consultation procedures; 2) 40 CFR 93.122(a)(4)(ii), which states that conformity plans must require written commitments to control measures to be obtained prior to a conformity determination if the control measures are not included in a metropolitan planning organization's transportation plan and transportation improvement program, and that such commitments be fulfilled; and 3) 40 CFR 93.125(c), which states that conformity plans must require written commitments to mitigation measures to be obtained prior to a project-level conformity determination, and that project sponsors comply with such commitments.

(C) The Federal Transportation Conformity Rule is located at 40 Code of Federal Regulations (CFR) 93.100 through 93.129.

(2) Definitions.

(A) Definitions for key words and phrases used in this rule may be found in subsection 40 CFR 93.101 of 40 CFR 93 Subpart A, promulgated as of July 1, 2006, which is hereby incorporated by reference in this rule,



as published by the Office of the Federal Register, U.S. National Archives and Records, 700 Pennsylvania Avenue NW, Washington, D.C. 20408. This rule does not incorporate any subsequent amendments or additions.

(B) Participants in the interagency consultation process must include the following public agencies:

1. Federal Highway Administration, Kansas Division;
2. Federal Transit Administration, Region 7;
3. Johnson County (Kansas) Environmental Department;
4. Johnson County (Kansas) Transit;
5. Kansas City Area Transportation Authority;
6. Kansas City, Missouri, Department of Health Air Quality Program;
7. Kansas Department of Health, Bureau of Air & Radiation;
8. Kansas Department of Transportation;
9. Mid-America Regional Council;
10. Missouri Department of Natural Resources' Air Pollution Control Program;
11. Missouri Department of Transportation;
12. Unified Government Health Department, Air Quality Program;
13. Unified Government Transit Department; and
14. U.S. Environmental Protection Agency, Region 7.

(C) Metropolitan planning organization (MPO)—That organization designated as being responsible, together with the state, for conducting the continuing, cooperative, and comprehensive planning process under 23 U.S.C. 134 and 49 U.S.C. 5303. It is the forum for cooperative transportation decision-making. The Mid-America Regional Council is the MPO for the Kansas City metropolitan area and the organization responsible for conducting the planning required under section 174 of the CAA.

(D) 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) Interagency Consultation Procedures (Federal Code Location: 40 CFR 93.105).

1. General. Procedures for interagency consultation (federal, state, and local), resolution of conflicts, and public consultation are described in paragraphs (3)(A)1.–(3)(A)5. of this rule. Public consultation procedures meet the requirements for public involvement in 23 CFR part 450.

A. The implementation plan revision required shall include procedures for interagency consultation (federal, state, and local), resolution of conflicts, and public consultation as described in paragraphs (3)(A)1.–(3)(A)5. of this rule. Public consultation procedures will be developed in accordance with the requirements for public involvement in 23 CFR part 450.

B. MPOs and state departments of transportation will provide reasonable opportunity for consultation with state air agencies, local air quality and transportation agencies, Department of Transportation (DOT), and U.S. Environmental Protection Agency (EPA), including consultation on the issues described in subparagraph (3)(A)3.A. of this rule, before making conformity determinations.

2. Interagency consultation procedures—general factors.

A. Representatives of the MPO and its regional transportation policy advisory committee, state transportation agencies, state and local air quality agencies, and regional air quality policy advisory organization designated by the state air quality agencies under the provisions of CAA section 174 shall participate in an interagency consultation process in accordance with this section with each other and with Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) and EPA on the development of the implementation plan, the list of Transportation Control Measures (TCMs) in the applicable implementation plan, the unified planning work program under 23 CFR section 450.314, the transportation plan, the Transportation Improvement Plan (TIP), and any revisions to the preceding documents and associated conformity determinations. Use of existing advisory committee structures will be the preferred mechanism for interagency consultation during the early stages of planning or programming processes. Expansion of representation will occur as necessary to assure that consulting agencies have the opportunity to receive background information as it is developed and share ideas and concerns early in the planning or programming process. Where consultation takes place outside of existing advisory committee structures, local government transportation interests will be represented by four (4) persons (representing transit and roadway interests from each state) appointed by the chairs of the regional transportation policy advisory committee and local government air quality interests will be represented by four (4) persons (at least one (1) from each state) appointed by the chairs of the regional air quality advisory organization. The air quality

representation shall not duplicate representation from transportation agencies.

B. Roles and responsibilities of consulting agencies.

(I) It shall be the affirmative responsibility of the agency(ies) with the responsibility for preparing the final document to initiate the consultation process by notifying other participants of the proposed planning or programming process for the development of the following planning or programming documents: the regional transportation plan and the regional TIP, including revisions, the unified planning work program, and any conformity determinations, with the MPO as the responsible agency; the statewide transportation plan and State Transportation Improvement Plan for northern Clay and northern and western Platte Counties, with the state transportation agency as the responsible agency; and the state air quality implementation plans with motor vehicle emissions budgets and control strategies, including revisions, with the state air quality agency in cooperation with the MPO as the responsible agencies.

(II) The adequacy of the consultation process for each type of document listed in subparagraph (3)(A)2.B. of this rule shall be assured by the agency responsible for that document, by meeting the requirements of subparts (3)(A)2.B.(II)(a)–(c) of this rule.

(a) The proposed planning or programming process must include at a minimum the following:

I. The roles and responsibilities of each agency at each stage in the planning process, including technical meetings;

II. The proposed organizational level of regular consultation;

III. A process for circulating (or providing ready access to) draft documents and supporting materials for comment before formal adoption or publication;

IV. The frequency of, or process for convening, consultation meetings and responsibilities for establishing meeting agendas; and

V. A process for responding to the significant comments of involved agencies.

(b) The time sequence and adequacy of the consultation process will be reviewed and determined for each type of planning or programming document by consensus of the consultation agencies at a meeting convened by the responsible agency for that purpose. These procedures shall subsequently become binding on all parties until such time as the procedures are revised by consensus of the consulting agencies.



(c) As a matter of policy, planning or programming processes must meet two (2) tests—

I. Consultation opportunities must be provided early in the planning process. Early participation is intended to facilitate sharing of information needed for meaningful input and to allow the consulting agencies to confer with the responsible agency during the formative stages of the plan or program. At a minimum, proposed transportation planning or programming processes must specifically include opportunities for the consulting agencies to confer upon the conformity analysis required to make conformity determinations for transportation plans and TIPs prior to consideration of draft documents by the regional air quality advisory organization, the regional transportation policy advisory committee or the state transportation agency for the transportation planning area outside of the metropolitan planning area for transportation planning. Air quality planning processes must specifically include opportunities for the consulting agencies to confer upon the motor vehicle emissions budget before the budget is considered by the regional air quality advisory organization, the regional transportation policy advisory committee, and the state air quality agency. Additionally, if TCMs are to be considered in transportation plans, TIPs or the state implementation plan, specific opportunities to consult upon TCMs by air quality and transportation agencies must be provided; and

II. Additional consultation opportunities must be provided prior to any final action by any responsible agency listed in subparagraph (3)(A)2.B. of this rule. Prior to formal action approving any plan or program, the consulting agencies must be given an opportunity to communicate their views in writing to the responsible agency. The responsible agency must consider the views of the consulting agencies and respond in writing to those views in a timely and complete manner prior to any final action on any plan or program. Such views and written response shall be made part of the record of any decision or action. Opportunities for formal consulting agency comment may run concurrent with other public review time frames. Participation or lack of participation by a consulting agency early in the planning or programming process has no bearing on their opportunity to submit formal comment prior to official action by the responsible agency.

C. Consultation on planning assumptions.

(I) Representatives of the conformity consulting agencies shall meet no less frequently

than once per calendar year for the specific purpose of reviewing changes in transportation and air quality planning assumptions that could potentially impact the state implementation plan (SIP) motor vehicle emissions inventory, motor vehicle emissions budget and/or conformity determinations.

(II) It shall be the affirmative responsibility of each of the consulting agencies to advise the MPO of any pending changes in their planning assumptions. The MPO shall be responsible for convening a meeting to review planning assumptions in August of each year, unless an alternate date is agreed to by the consulting agencies, and at such other times as any of the consulting agencies proposes a change to any of these planning inputs. The purpose of the meeting(s) is to share information and evaluate the potential impacts of any proposed changes in planning assumptions, and to inform each other regarding the timetable and scope of any upcoming studies or analyses that may lead to future revision of planning assumptions.

(III) If any consulting agency proposes to undertake a data collection, planning or study process to evaluate a planning assumption that may have a significant impact on the state implementation plan (SIP) motor vehicle emissions inventory, motor vehicle emissions budget and/or conformity determinations, all of the consulting agencies shall be given an opportunity to provide advisory input into that process. Examples of data, planning or study topics that may be of interest in this context include (but are not limited to):

- (a) Estimates of vehicle miles traveled;
- (b) Estimates of current vehicle travel speeds;
- (c) Regional population and employment projections;
- (d) Regional transportation modeling assumptions;
- (e) The methodology for determining future travel speeds;
- (f) The motor vehicle emissions model; and
- (g) The methodology for estimating future vehicle miles traveled.

(IV) Whenever a change in air quality or transportation planning assumptions is proposed that may have a significant impact on the SIP motor vehicle emissions inventory, motor vehicle emissions budget and/or conformity determinations, the agency proposing the change must provide all of the consulting agencies an opportunity to review the basis for the proposed change. All con-

sulting agencies shall be given at least thirty (30) days to evaluate the impact of a proposed change in planning assumptions prior to final action by the agency proposing the change. (In the case of an EPA motor vehicle emissions model change, this would occur as part of the federal rulemaking process.)

D. It shall be the affirmative responsibility of the responsible agency to maintain a complete and accurate record of all agreements, planning and programming processes, and consultation activities required under this rule and to make these documents available for public inspection upon request. In addition, it shall be the affirmative responsibility of the responsible agency to post the following information on the Mid-America Regional Council's Internet website to provide public access—

(I) The full text of any transportation or air quality document specified in subparagraph (3)(A)2.B. of this rule and undergoing public comment pending final action by the responsible agency;

(II) Summary of planning and programming processes for transportation plans, TIPs and SIPs identified in subparagraph (3)(A)2.B. of this rule, after approval by consensus of the consulting agencies; and

(III) Reasonably understandable summaries of final planning and programming documents for the general public. This summary information must be accompanied by a complete list of all supporting information, reports, studies, and texts which provide background or further information, along with the location of the documents and instructions on how they can be accessed. Summaries of final documents shall be provided to the other consulting agencies and to the MPO within fourteen (14) days of final approval by the responsible agency. Summaries of the following documents are specifically required:

- (a) Regional unified planning work program;
- (b) Official projections of regional population and employment;
- (c) Regional transportation plan;
- (d) State transportation plans for areas within the air quality planning area but outside of the metropolitan planning area for transportation;
- (e) Regional transportation improvement program;
- (f) State transportation improvement program for areas within the air quality planning area but outside of the metropolitan planning area for transportation;
- (g) State air quality plan and emissions inventories, including motor vehicle emissions budgets; and



(h) The most recent analysis upon which a transportation/air quality conformity determination was made for a transportation plan or TIP.

3. Interagency consultation procedures: specific processes. Interagency consultation procedures shall also include the following specific processes:

A. An interagency consultation process in accordance with paragraph (3)(A)2. of this rule involving the MPO, the regional transportation policy advisory committee, the regional air quality advisory organization, the state transportation and air quality agencies, EPA, FHWA and FTA shall be undertaken for the following:

(I) Evaluating and choosing a model (or models) and associated methods and assumptions to be used in hot-spot analyses and regional emissions analyses;

(II) Determining which minor arterials and other transportation projects should be considered “regionally significant” for the purposes of regional emissions analysis (in addition to those functionally classified as principal arterial or higher or fixed guideway systems or extensions that offer an alternative to regional highway travel), and which projects should be considered to have a significant change in design concept and scope from the transportation plan or TIP. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.C. of this rule regarding changes in planning assumptions;

(III) Evaluating whether projects otherwise exempted from meeting the requirements of 40 CFR 93.126 and 93.127 should be treated as non-exempt in cases where potential adverse emissions impacts may exist for any reason. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.B. of this rule in the context of the transportation planning and TIP programming processes;

(IV) Developing a list of TCMs to be included in the applicable implementation plan. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.B. of this rule in the context of the state air quality implementation plan development process;

(V) Making a determination, as required by 40 CFR 93.113(c)(1), whether past obstacles to implementation of TCMs which are behind the schedule established in the applicable implementation plan have been identified and are being overcome, and whether state and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding for TCMs. This process shall be initiated

by the MPO and conducted in accordance with subparagraph (3)(A)2.B. of this rule in the context of the transportation planning and TIP programming processes. This process shall also consider whether delays in TCM implementation necessitate revisions to the applicable implementation plan to remove TCMs or substitute TCMs or other emission reduction measures;

(VI) Notification of transportation plan or TIP revisions or amendments which merely add or delete exempt projects listed in 40 CFR 93.126 or 40 CFR 93.127. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.B. of this rule in the context of the transportation planning and TIP programming processes. The MPO shall notify all conformity consulting agencies in writing within seven (7) calendar days after taking action to approve such exempt projects. The notification shall include enough information about the exempt projects for the consulting agencies to determine their agreement or disagreement that the projects are exempt under 40 CFR 93.126 or 40 CFR 93.127;

(VII) Determining whether the project is included in the regional emissions analysis supporting the current conforming TIP’s conformity determination, even if the project is not strictly included in the TIP for purposes of MPO project selection or endorsement, and whether the project’s design concept and scope have not changed significantly from those which were included in the regional emissions analysis, or in a manner which would significantly impact use of the facility. This process shall be initiated by the MPO and conducted in accordance with paragraph (3)(A)2. of this rule in the context of the TIP programming process;

(VIII) Determining what forecast of vehicle miles traveled (VMT) to use in establishing or tracking emissions budgets, developing transportation plans, TIPs, or applicable implementation plans, or making conformity determinations. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.C. of this rule regarding planning assumptions;

(IX) Determining the definition of reasonable professional practice for the purposes of 40 CFR 93.122. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.C. of this rule regarding planning assumptions;

(X) Determining whether the project sponsor or the MPO has demonstrated that the requirements of 40 CFR 93.118 are satisfied without a particular mitigation or control measure, as provided in 40 CFR 93.125(d). This process shall be initiated by

the MPO and conducted in accordance with subparagraph (3)(A)2.B. of this rule in the context of the transportation planning and TIP programming processes; and

(XI) Choosing conformity tests and methodologies for isolated rural nonattainment and maintenance areas, as required by 40 CFR 93.109(I)(2).

B. An interagency consultation process in accordance with paragraph (3)(A)2. of this rule involving the MPO, the regional air quality advisory organization, the regional transportation policy advisory committee and the state air quality and transportation agencies for the following:

(I) Evaluating events which will trigger new conformity determinations in addition to those triggering events established in 40 CFR 93.104. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.C. of this rule; and

(II) Consulting on emissions analysis for transportation activities which cross the borders of the MPOs or nonattainment or maintenance area or air basin. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.B. of this rule.

C. Prior to establishing a metropolitan planning area for transportation planning that does not include the entire nonattainment or maintenance area, the interagency consultation process described in paragraph (3)(A)2. of this rule shall be supplemented by a formal memorandum of agreement, incorporated in the applicable state implementation plan, executed by the MPO and the state air quality and transportation agencies for cooperative planning and analysis. This executed memorandum of agreement shall specify procedures for determining conformity of all regionally significant transportation projects outside the metropolitan planning boundary for transportation planning and within the nonattainment or maintenance area.

(I) The interagency consultation process established by the executed memorandum of agreement for such an area shall apply in addition to all other consultation requirements.

(II) At a minimum, any memorandum of agreement establishing a state transportation planning area outside of the MPO metropolitan planning area for transportation planning, but within the nonattainment or maintenance area, shall provide for state air quality agency concurrence in conformity determinations for areas outside of the metropolitan planning boundary for transportation planning, but within the nonattainment or maintenance area. Such agreement



shall also establish a process involving the MPO and the state transportation agency in cooperative planning and analysis for determining conformity of all projects outside the metropolitan planning area for transportation planning and within the nonattainment or maintenance area in the context of the total regional transportation system that serves the nonattainment or maintenance area.

D. An interagency consultation process shall be undertaken to ensure that plans for construction of regionally significant projects which are not FHWA/FTA projects (including projects for which alternative locations, design concept and scope, or the no-build option are still being considered), including those by recipients of funds designated under Title 23 U.S.C. or Title 49 U.S.C., are disclosed to the MPO on a regular basis, and to ensure that any changes to those plans are immediately disclosed. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.B. of this rule in the context of the transportation planning and TIP programming processes. At a minimum, the disclosure procedures shall meet the requirements of parts (3)(A)2.D.(I)–(3)(A)2.D.(III) of this rule.

(I) The sponsor of any such regionally significant project, and any agency that becomes aware of any such project through applications for approval, permitting or funding shall disclose such project to the MPO in a timely manner. Such disclosure shall be made not later than the first occasion when any of the following actions is sought: any policy board action necessary for the project to proceed, the issuance of administrative permits for the facility or for construction of the facility, the execution of a contract to design or construct the facility, the execution of any indebtedness for the facility, any final action of a board, commission or administrator authorizing or directing employees to proceed with design, permitting or construction of the project, or the execution of any contract to design or construct or any approval needed for any facility that is dependent on the completion of a regionally significant project. The sponsor of any potential regionally significant project shall disclose to the MPO each project for which alternatives have been identified through the National Environmental Policy Act (NEPA) process, and, in particular, any preferred alternative that may be a regionally significant project. This information shall be provided to the MPO in accordance with the time sequence and procedures established under subparagraph (3)(A)2.B. of this rule for each transportation planning and TIP development process.

(II) In the case of any such regionally significant project that has not been disclosed to the MPO and other agencies participating in the consultation process before action is taken to adopt or approve, such regionally significant project shall be deemed not to be included in the regional emissions analysis supporting the currently conforming TIP's conformity determination and not to be consistent with the motor vehicle emissions budget in the applicable implementation plan, for the purposes of 40 CFR 93.121.

(III) For the purposes of subparagraph (3)(A)3.D. of this rule, the phrase "adopt or approve of a regionally significant project" means the first time any action necessary to authorizing a project occurs, such as any policy board action necessary for the project to proceed, the issuance of administrative permits for the facility or for construction of the facility, the execution of a contract to construct the facility, any final action of a board, commission or administrator authorizing or directing employees to proceed with construction of the project, or any written decision or authorization from the MPO that the project may be adopted or approved.

E. This interagency consultation process shall be undertaken in accordance with subsection (3)(A) of this rule involving the MPO and other recipients of funds designated under Title 23 U.S.C. or Title 49 U.S.C. for assuming the location and design concept and scope of projects which are disclosed to the MPO as required by subparagraph (3)(A)3.D. of this rule but whose sponsors have not yet decided these features in sufficient detail to perform the regional emissions analysis according to the requirements of 40 CFR 93.122. This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.C. of this rule as it relates to planning assumptions.

F. This interagency consultation process outlined in paragraph (3)(A)2. of this rule involves the MPO, the regional transportation policy advisory committee, the regional air quality advisory organization, and the state transportation and air quality agencies shall be undertaken for the design, schedule, and funding of research and data collection efforts and regional transportation model development by the MPO (e.g., household/travel transportation surveys). This process shall be initiated by the MPO and conducted in accordance with subparagraph (3)(A)2.C. of this rule as it relates to planning assumptions.

G. This process insures providing final documents (including applicable implementation plans and implementation plan

revisions) and supporting information to each agency after approval or adoption. This process is applicable to all agencies described in subparagraph (3)(A)1.A. of this rule, including federal agencies.

4. Resolving conflicts.

A. Any conflict among state agencies or between state agencies and the MPO regarding a final action on any conformity determination by the MPO on a plan or program subject to these consultation requirements shall be escalated to the governor(s), if the conflict cannot be resolved by the heads of the involved agencies. Such agencies shall make every effort to resolve any differences, including personal meetings between the heads of such agencies or their policy-level representatives, to the extent possible.

B. After the MPO has notified the state air quality agencies in writing of the disposition of all air quality agency comments on a proposed conformity determination, state air quality agencies shall have fourteen (14) calendar days from the date that the written notification is received to appeal such proposed determination of conformity to the governor of Missouri. If the Missouri air quality agency appeals to the governor of Missouri, the final conformity determination will automatically become contingent upon concurrence of the governor of Missouri. If the Kansas air quality agency presents an appeal to the governor of Missouri regarding a conflict involving both Kansas and Missouri agencies or the MPO, the final conformity determination will automatically become contingent upon concurrence of both the governor of Missouri and the governor of Kansas. The Missouri air quality agency shall provide notice of any appeal under this subsection to the MPO, and the state transportation agencies, and the Kansas air quality agency. If neither state air quality agency appeals to the governor(s) within fourteen (14) days of receiving written notification, the MPO may proceed with the final conformity determination.

C. The governor may delegate the role of hearing any such appeal under this paragraph and of deciding whether to concur in the conformity determination to another official or agency within the state, but not to the head or staff of the state air quality agency or any local air quality agency, the state department of transportation, a state transportation commission or board, any agency that has responsibility for only one (1) of these functions, or an MPO.

5. Public consultation procedures. Affected agencies making conformity determinations on transportation plans, programs, and projects shall establish a proactive public



involvement process which provides opportunity for public review and comment by, at a minimum, providing reasonable public access to technical and policy information considered by the agency at the beginning of the public comment period and prior to taking formal action on a conformity determination for all transportation plans and TIPs, consistent with these requirements and those of 23 CFR 450.316(b). Any charges imposed for public inspection and copying should be consistent with the fee schedule contained in 49 CFR 7.43. In addition, these agencies must specifically address in writing all public comments that known plans for a regionally significant project which is not receiving FHWA or FTA funding or approval have not been properly reflected in the emissions analysis supporting a proposed conformity finding for a transportation plan or TIP. These agencies shall also provide opportunity for public involvement in conformity determinations for projects where otherwise required by law.

(B) Requirement to Fulfill Commitments to Control Measures (Federal Code Location: 40 CFR 93.122(a)(4)(ii)). Written commitments to control measures that are not included in the transportation plan and TIP must be obtained from the entity or entities with authority and ability to implement the control measures prior to a conformity determination and such commitments must be fulfilled.

(C) Requirement to Fulfill Commitments to Mitigation Measures (Federal Code Location: 40 CFR 93.125(c)). Written commitments to project-level mitigation measures which are conditions for making conformity determinations for a transportation plan or transportation improvement program must be obtained from the project sponsor prior to a positive conformity determination. Project sponsors committing to mitigation measures to facilitate positive conformity determinations must comply with such commitments.

(4) Reporting and Record Keeping. *(Not Applicable)*

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

*AUTHORITY: section 643.050, RSMo 2000.\* Original rule filed Oct. 4, 1994, effective May 28, 1995. Amended: Filed May 1, 1996, effective Dec. 30, 1996. Amended: Filed June 15, 1998, effective Jan. 30, 1999. Amended: Filed Feb. 14, 2003, effective Sept. 30, 2003. Amended: Filed April 1, 2005, effective Dec. 30, 2005. Amended: Filed Oct. 24, 2006, effective July 30, 2007.*

*\*Original authority: 643.050, RSMo 1965, amended 1972, transferred from 203.050 in 1986, 1992, 1993, 1995.*