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In BOTH 10 CSR 10-5.220 and 10 CSR 10-2.260 Control of Petroleum Liquid Storage, Loading and Transfer

In 10 CSR 10-5.220 Control of Petroleum Liquid Storage, Loading and Transfer

*PURPOSE: This rule restricts volatile organic compound emissions from the handling of petroleum liquids in **five** specific areas: petroleum storage tanks with a capacity greater than forty thousand gallons, the loading of gasoline into delivery vessels, the transfer of gasoline from delivery vessels into storage containers, **gasoline delivery vessels and the fueling of motor vehicles from storage containers**. This rule is required to achieve the **federally mandated reduction of hydrocarbon emissions in the St. Louis metropolitan area that contribute to the formation of ozone**.*

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.

In 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**.*

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In or going to be in the next adopted version of 10 CSR 10-6.020 Definitions Rule

- (1) **Applicability.** This rule shall apply throughout Clay, Jackson and Platte Counties.
 - (A) This rule shall apply throughout St. Louis City and Jefferson, St. Charles, Franklin and St. Louis Counties.
 - (B) Compliance with this rule does not relieve the owner or operator of the responsibility to comply with other applicable governmental requirements.
 - (C) Exemptions to this rule include:
 4. This subsection shall not apply to petroleum storage tanks which—

1. Petroleum storage tanks that meet the following requirements shall be exempt from subsection (3)(A) of this rule:
 - 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; **and/or**
 - D. Are used to store waxy, heavy pour crude oil.
2. Gasoline loading. Subsection (3)(B) of this rule shall not apply to a loading installation 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 and meets the following requirements:
 - A. To maintain the exemption, these installations shall submit a report on a form supplied by the department no later than February 1 of each year to the staff director 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 December 31, 1995, 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; and
 - 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.
3. Stationary gasoline tanks with a capacity of less than or equal to five hundred (500) gallons.
4. Fueling of motor vehicles. Installations with one thousand (1,000) gallon or smaller tank(s) and monthly throughput of less than or equal to ten thousand (10,000) gallons of gasoline through the tanks are exempt from subsection (3)(E) of this rule.
5. Gasoline transfer provisions per paragraph (3)(C)2. of this rule shall not apply to transfers made to storage tanks equipped with floating roofs or their equivalent.

6. Gasoline transfer provisions per 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.
7. Fueling of motor vehicles pursuant to subsection (3)(E) of this rule shall not apply to any stationary tank used primarily for the fueling of agricultural implements or implements of husbandry. For purposes of subsection (3)(E), agricultural implements and implements of husbandry shall refer to vehicles exempted from licensing requirements by the Missouri Department of Revenue.
8. Initial fueling of motor vehicles. Subsection (3)(E) of this rule shall not apply to any refueling system used for the initial fueling of motor vehicles as defined in subsection (2)(E) of this rule.
9. Ancillary refueling of motor vehicles. Subsection (3)(E) of this rule shall not apply to any ancillary refueling system used for the refueling of motor vehicles as defined in subsection (2)(A) of this rule.

(2) Definitions.

- (A) Ancillary refueling system—Any gasoline dispensing installation, including related equipment, that shares a common storage tank with an initial fueling system as defined in subsection (2)(E) of this rule. The purpose of an ancillary refueling system is to refuel in-use motor vehicles at automobile assembly plants.
- (B) CARB—California Air Resources Board, 2020 L Street, PO Box 2815, Sacramento, CA 95812.
- (C) Department—Missouri Department of Natural Resources, PO Box 176, Jefferson City, MO 65102.
- (D) Director—The director of the Missouri Department of Natural Resources, or a designated representative to carry out the duties as described in 643.060 of the Missouri Air Conservation Law.
- (E) Initial fueling of motor vehicles—The operation, including related equipment, 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 have fuel tanks that have never before contained gasoline fuel.
- (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.
- (F) 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 current MO/PETP.
- (G) Staff director—Director of the Air Pollution Control Program of the

- Department of Natural Resources, or a designated representative.
- (H) System—Manufacturer’s application of one of the specific designs for Stage II vapor recovery.
 - (I) Vapor recovery system modification—Any repair, replacement, alteration or upgrading of Stage I or Stage II vapor recovery equipment or gasoline dispensing equipment equipped with Stage II vapor recovery beyond normal maintenance of the system as permitted by the staff director. Replacement of equipment with like equipment shall not be considered a vapor recovery system modification.
 - (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.
 - 19. Stage II vapor recovery system—A system used to capture the gasoline vapors that would otherwise be emitted when gasoline is dispensed into a vehicle fuel tank by routing vapors back to the fuel storage tank.
 - (J) Definitions of certain terms specified in this rule, other than those defined/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/five-tenths (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 must/shall be fitted with—
 - (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 cm² per meter of tank diameter (1.0 in² 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 must be provided with/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 absorber system, condensation system, [incinerator/membrane system](#) 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/that may be 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. Reporting and record keeping shall be per subsection (4)(A) of this rule.
 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.
- (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. Reporting and record keeping shall be per subsection (4)(B) of this rule.
 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)/five hundred (500) 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; and
 - (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) except when the owner or operator provides documentation that the system is CARB certified or MO/PETP approved for a different valve and will not function properly with a 3" wcp/8" wcv valve. Initial fueling of motor vehicle systems and ancillary refueling systems previous MO/PETP approval applies for pressure/vacuum values.
 - (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 having a volume greater than one thousand (1,000) and less than forty thousand (40,000) gallons shall also be equipped with a Stage I vapor recovery system that has a collection efficiency of ninety-eight percent (98%) that is based on MO/PETP, and the delivery vessels to these tanks shall be in compliance with subsection (3)(D) of this rule.
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-eight percent (98%) 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. All fill ports and vapor ports shall have Mo/PETP popped fittings.
 - 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 popped fittings.
 - B. A delivery vessel shall be reloaded 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 one thousand (1,000) gallons and less than forty thousand (40,000) gallons unless—
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. Reporting and record keeping shall be per subsection (4)(C) of this rule.
 - 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 subsection (3)(B) or (3)(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 installation upon successful completion of the leak test. Blank test certification application forms for the test results will be provided to the testing installations 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) business days of testing if it does not meet the leak test criteria of subparagraph (3)(D)1.A. 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. Reporting and record keeping shall be per subsection (4)(D) of this rule.
 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 safety regulations.
- (E) Fueling of Motor Vehicles.
1. Except as provided in subsections (3)(A)–(C) of this rule, no owner or operator shall install, permit the use of or maintain any stationary gasoline tank with a capacity of more than one thousand (1,000) gallons or operate an installation with a monthly throughput of greater than ten thousand (10,000) gallons of gasoline through tanks in the one thousand (1,000) gallon or smaller class unless the storage tank(s) is equipped with a vapor recovery system. The system shall be approved by the staff director based on the MO/PETP and shall be capable of—
 - A. Collecting the hydrocarbon vapors and gases discharged during motor vehicle fueling;
 - B. Preventing their emission into the atmosphere; and
 - C. Maintaining ninety-five percent (95%) efficiency of total capture and emission reduction.
 2. After January 1, 1999, no installation subject to this section shall employ remote vapor check valves.
 3. After January 1, 1999, no construction permit for modification or replacement of any equipment or component, including a like for like replacement, shall be approved unless the equipment or component is MO/PETP approved. After January 1, 1999, if a construction permit is not required, no installation utilizing an approved system shall modify or replace any equipment or component, including a like for like replacement, unless the equipment or component is MO/PETP approved. In the event that the staff director finds a violation of this provision, the staff director may require replacement of components or equipment with MO/PETP approved components or equipment.

4. For the purpose of subsection (3)(E) of this rule, no vapor recovery systems or devices shall be installed, used or maintained until they are permitted by the director in accordance with subsections (3)(H) and (I) of this rule.
5. All tank gauging and sampling sites or ports, valves, breakaways, joints and disconnects on the vapor recovery systems shall be gas-tight to prevent VOC emissions except during gauging or sampling.
6. All vapor recovery systems shall be maintained in good working order in accordance with the manufacturer's specifications and with no indication of visible liquid leaks.
7. The operator of each affected installation shall post operation instructions conspicuously in the gasoline dispensing area for the system in use at each station. The instructions shall clearly describe how to fuel vehicles correctly with vapor recovery nozzles utilized at that station. The instructions shall also include a warning that repeated attempts to continue dispensing gasoline after the system has indicated that the vehicle fuel tank is full may result in spillage of gasoline.
8. The operator of each affected installation shall ensure dispensing gasoline meets the requirements of 40 CFR 80.22(j) promulgated June 26, 1996 and hereby incorporated by reference in this rule, as published by the Office of 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.
9. The staff director shall identify and list specific defects that substantially impair the effectiveness of components or systems used for the control of gasoline vapors resulting from motor vehicle fueling operations. This ongoing list shall be used by the staff director as a basis for marking the components or systems out-of-order and shall be made available to any gasoline dispensing installations subject to paragraph (3)(E)1. of this rule. The list shall be made available to the installation's designated person for use in performing system maintenance.
10. Upon the staff director's identification of substantial defects in equipment or installation of a gasoline vapor control system, the system or components shall be marked "out-of-order" and no person shall use or permit the use of that system or component until those defects and all other defects have been repaired, replaced or adjusted to establish compliance. The components or system may be released into operation when the staff director has reinspected the installation; found the system and components to be in good working order; and removed the "out-of-order" notice. The staff director shall reinspect the previously marked "out-of-order" system or component and other noted defects as expeditiously as possible after notification from the operator that the repairs have been completed. In no case shall the

reinspection be more than four (4) business days from the operator's notification that the repairs have been completed. In those cases in which the reinspection cannot be scheduled within the required time, the owner or operator may remove the "out-of-order" notice with permission of the staff director. If reinspection reveals that compliance has not been established, the system or components shall remain tagged "out-of-order." The staff director shall conduct a second reinspection within seven (7) business days from the operator's notification that repairs have been completed.

(F) Initial Fueling of Motor Vehicles.

1. Initial fueling systems and ancillary refueling systems.
 - A. Subsection (3)(F) of this rule shall only apply to the fueling systems used for the initial fueling of motor vehicles as defined in subsection (2)(E) of this rule and the ancillary refueling systems used to fuel in-use motor vehicles defined in subsection (2)(A) of this rule. These initial fueling systems and ancillary refueling systems are not subject to the MO/PETP testing requirements. All other MO/PETP provisions apply.
 - B. The initial fueling systems and ancillary refueling systems storage tank systems are subject to the gasoline storage tank transfer requirements in subsection (3)(C) of this rule except for the MO/PETP testing requirements. All other MO/PETP provisions in subsection (3)(C) of this rule apply.
2. Owner or operator requirements.
 - A. No owner or operator shall install, permit the use of, or maintain any stationary gasoline tank for the purpose of initial fueling of new motor vehicle gasoline tanks unless the new motor vehicle is equipped with a U.S. Environmental Protection Agency (EPA) certified Onboard Refueling Vapor Recovery (ORVR) system or the gasoline dispensing system is equipped with a vapor recovery system, (e.g., Stage II), capable of a minimum ninety-five percent (95%) control efficiency.
 - B. No owner or operator shall install, permit the use of, or maintain any stationary gasoline tank for the purpose of ancillary fueling of motor vehicles unless the motor vehicle is equipped with an EPA certified ORVR system or the gasoline dispensing system is equipped with a vapor recovery system, (e.g., Stage II), capable of a minimum ninety-five percent (95%) control efficiency.
 - C. Demonstration of emission capture efficiency of the gasoline dispensing vapor recovery system shall be required and made available to the staff director upon request. The dispensing system, (e.g., Stage II), shall be approved by the staff director if the system—

- (I) Collects the hydrocarbon vapors and gases discharged during initial motor vehicle fueling;
 - (II) Prevents their emission into the atmosphere; and
 - (III) Demonstrates a minimum of ninety-five percent (95%) control efficiency for emission reduction of the fueling and dispensing operation emissions. Testing methods shall be in accordance with EPA reference test methods (or alternative test methods as approved by the staff director) for incineration destruction efficiency.
 - D. Initial fueling systems and ancillary refueling systems are subject to the gasoline transfer tank requirements in subsection (3)(C) of this rule except for the MO/PETP testing.
 - E. The owner or operator of an initial fueling system and ancillary refueling system shall—
 - (I) Maintain the vapor control system in good working order in accordance with the manufacturer’s specifications and with no indications of visible liquid leaks or detectable vapor emissions;
 - (II) Conduct regular preventive maintenance self-inspections of the vapor control system and conduct any necessary repairs upon identification of those defects. The installation must conduct all maintenance specified by manufacturer guidelines. These manufacturers guidelines must be made available to department and local agency inspectors upon request;
 - (III) Ensure all fueling procedures are conducted in the most efficient manner to reduce emissions from drips; and
 - (IV) Ensure the sealing of the filled vehicle’s tank after fueling.
 - F. Reporting and record keeping shall be per subsection (4)(E) of this rule.
- (G) Permits Required.
 - 1. All installations subject to paragraph (3)(E)1. of this rule, except installations subject to subsection (3)(F) of this rule, shall meet the following permitting requirements:
 - A. No installation shall construct or undergo vapor recovery system modification without permits obtained according to subsection (3)(H) of this rule; and
 - B. No installation shall operate without an operating permit obtained according to subsection (3)(I) of this rule.
 - 2. All installations subject to subsection (3)(F) of this rule shall meet the following permitting requirements:
 - A. The installation must apply for a Stage II construction permit for all modifications or construction of initial fueling systems

or ancillary refueling systems. All performance testing in subsections (3)(H) and (3)(I) of this rule shall be conducted to ensure system integrity; and

- B. All operating permitting requirements of subsection (3)(I) of this rule, except paragraph (3)(I)2. of this rule, are applicable to any initial fueling systems or ancillary refueling systems. Except for the initial Stage II Operating Permit, Stage II Operating Permits shall be incorporated as part of the installation applicable requirements of Part 70 Operating Permits according to 10 CSR 10-6.065.
- (H) Construction Permits for Vapor Recovery Systems for New Installations and Vapor Recovery System Modification for Existing Installations. No new gasoline dispensing installation that requires a Stage II vapor recovery system shall begin construction prior to obtaining a construction permit according to paragraph (3)(H)1. of this rule. Installations shall apply for permits to test experimental technology according to paragraph (3)(H)2. of this rule. Existing installations that undergo vapor recovery system modification shall obtain permits according to paragraph (3)(H)3. of this rule. Owners, operators and contractors beginning construction without first obtaining a construction permit are subject to enforcement action.
 - 1. Owners or operators of new gasoline dispensing installations that require Stage II equipment shall—
 - A. Submit an application on a form supplied by the department for a permit to construct at least sixty (60) days prior to beginning construction. The application shall include:
 - (I) Complete diagrams and a thorough description of the planned installation;
 - (II) Plumbing diagrams including vapor lines, vent lines, slope of return vapor lines, material of all underground, above ground and dispenser plumbing, grade of site in relation to tanks, plumbing, and dispensers;
 - (III) Current CARB executive orders for the proposed system and/or the system components. After January 1, 1998, no installation shall be issued a construction permit unless the system that will be installed has been demonstrated to achieve ninety-five percent (95%) efficiency according to paragraph (3)(E)1. of this rule. After January 1, 1999, no installation shall be issued a construction permit unless the equipment and components of the approved system that will be installed have been MO/PETP tested and approved;
 - (IV) At the option of the owner/operator, full port ball valves may be installed just below the riser of the vapor chamber. The ball valves shall be sealed fully open at all times except during testing. The ball valve

shall be tested in line during the dynamic back pressure blockage test;

- (V) Detailed description of the storage tank(s). The storage tank(s) shall be—
 - (a) Type I tank(s). A Type I tank is an underground storage tank that shall be covered with not less than six inches (6") of soil and/or concrete; or
 - (b) Type II tank(s). A Type II tank is one that has any portion of the shell exposed to the atmosphere. A Type II tank shall be equipped with a vapor processor; and
- (VI) Schedule of construction;
- B. Obtain a construction permit prior to beginning construction. The director shall issue a construction permit or a permit rejection within thirty (30) days of receipt of the application. When an appeal is made following rejection of the application to construct, that appeal shall be filed within thirty (30) days of the notice of rejection;
- C. Display the construction permit in a prominent location during construction;
- D. Notify the department seven (7) calendar days prior to the anticipated completion date of underground piping and schedule a mutually acceptable inspection date. In the event that no mutually acceptable date is available, the staff director shall schedule the inspection date. The underground piping shall not be covered without visual inspection by the staff director. If defects are found, the staff director shall provide written notice of those defects;
- E. Establish compliance with all rules and requirements of the department including those in Title 10 of the *Code of State Regulations*;
- F. Document for the staff director that prior to the introduction of product, the tank and piping system were subjected to a construction pressurization test of not more than five pounds per square inch (5 psi) and not less than four and five-tenths pounds per square inch (4.5 psi) and maintained this pressure for not less than thirty (30) minutes;
- G. Obtain staff director approval of final test methods and procedures that will be used to prove compliance;
- H. Within thirty (30) days of completion of construction, conduct and pass final leak tests and dynamic back pressure/liquid blockage tests to show compliance with department requirements. The staff director may observe the test; and
- I. Obtain and maintain on-site in a prominent location the current operating permit from the director for the site and the

specific vapor recovery system that was installed. The operating permit is renewable every five (5) years and shall be maintained according to subsection (3)(I) of this rule.

2. The director may approve experimental technology for a specific gasoline dispensing installation. Experimental technology may be approved for up to one (1) year for a limited number of stations under specific conditions determined by the staff director. Installations applying for approval of experimental technology shall—
 - A. Submit an application for director approval at least ninety (90) days prior to beginning construction. The application shall include, but not be limited to:
 - (I) Complete diagrams and a thorough description of the planned installation;
 - (II) Plumbing diagrams including vapor lines, vent lines, slope of return vapor lines, material of all underground, above ground and dispenser plumbing, grade of site in relation to tanks, plumbing, and dispensers; and
 - (III) Standards, test data, history, and related information for the proposed system;
 - B. Submit to the staff director a detailed plan for the construction and operation of the system. The plan shall include a description of the planned testing and record keeping for the installation. The director may issue the construction permit when all conditions of the testing installation are deemed satisfactory;
 - C. Display the construction permit in a prominent location during construction;
 - D. Install monitoring equipment to prove that the vapor recovery system is leak-tight if requested by the staff director; and
 - E. Upon completion of testing, obtain and maintain on-site in a prominent location a current operating permit from the director for the specific innovative technology that is in operation. The permit shall specify the technology, the location and the time period the technology will be tested.
3. Existing installations that are subject to subsection (3)(E) or (3)(F) of this rule and undergo vapor recovery system modification shall—
 - A. Submit an application on a form supplied by the department for a permit to construct prior to beginning modifications. 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. Applications for construction permits shall be submitted for projects that include, but are not limited to:
 - (I) Modifications that require breaking concrete in an area that may affect the vapor lines; and

- (II) Modifications that may affect the vapor lines themselves;
- B. Supply any information required by the staff director for the specific installation. Such information may include, but not be limited to, plumbing diagrams, including vapor lines, vent lines, slope of vapor lines, material of all underground, above ground and dispenser plumbing, grade of site in relation to tanks, plumbing and dispensers, current CARB executive orders for the proposed system and equipment, and proof of compliance with all rules and requirements of the department including those in Title 10 of the *Code of State Regulations*;
- C. Obtain a construction permit prior to beginning the modification. Continued operation during the construction requires department approval. The director shall issue a construction permit or a permit rejection within thirty (30) days of receipt of the application. When an appeal is made following rejection of the application, that appeal shall be filed within thirty (30) days of the notice of rejection;
- D. Display the construction permit in a prominent location during construction;
- E. Establish a schedule for inspection and testing as required by the staff director and notify the department seven (7) calendar days prior to the anticipated completion date of underground piping and schedule a mutually acceptable inspection date. In the event that no mutually acceptable date is available, the staff director shall schedule the inspection date. The underground piping shall not be covered without visual inspection by the staff director. If defects are found, the staff director shall provide written notice of those defects;
- F. Supply test results to the staff director;
- G. Receive staff director approval of final test methods and procedures that will be used to prove compliance;
- H. Within thirty (30) days of completion of construction, conduct and pass final leak tests and dynamic back pressure/liquid blockage tests to show compliance with department requirements. The staff director may observe the tests; and
- I. Upon completion of testing, obtain and display in a prominent location on-site the current operating permit from the director for the specific site and the specific vapor recovery system that was installed.
 - (I) The operating permit shall be maintained according to subsection (3)(I) of this rule, except paragraph (3)(I)2. of this rule shall not apply to initial fueling systems and ancillary refueling systems at automobile assembly installations.
 - (II) The operating permit is renewable every five (5)

years, except for operating permits covering initial fueling systems and ancillary refueling systems at automobile assembly installations. Automobile assembly installations shall apply for an initial Stage II Operating Permit covering both their initial fueling systems and their ancillary refueling systems that will be current until their Part 70 Operating Permit is renewed.

(III) Except for the initial Stage II Operating Permit, the operating permit for automobile assembly installations that covers their initial fueling systems and their ancillary refueling systems shall be incorporated as part of the installation applicable requirements of 10 CSR 10-6.065 Operating Permits.

(I) Operating Permits for Existing Installations. All existing installations subject to subsection (3)(E) or (3)(F) of this rule must apply to the director for an operating permit.

1. Initial operating permits. The term of the initial permit shall be established by the staff director. In order to obtain an operating permit an existing installation shall—
 - A. Apply to the director for an operating permit within sixty (60) days of the date of the staff director's notice to apply and test within ninety (90) days of the notice. However, no installation subject to this requirement shall operate after January 1, 1999, without an operating permit;
 - B. Provide documentation that the Stage II system is certified by CARB as having a vapor recovery or removal efficiency of at least ninety-five percent (95%);
 - C. Conduct and pass a department-approved back pressure blockage test and a department-approved leak decay test. The owner/operator of the installation shall schedule the tests and notify the staff director of the test dates at least seven (7) days prior to the testing date. The staff director may observe the tests. The owner/operator of the installation shall provide satisfactory test results to the staff director;
 - D. Designate a person(s) who has attended a department-approved training course for the Stage II equipment that is installed at that installation. A designated person shall be available for consultation to installation personnel and to the department;
 - E. Demonstrate that the installation maintains a system of record keeping that meets the staff director's requirements; and
 - F. Establish compliance with all rules and requirements of the Missouri Department of Natural Resources including those in Title 10 of the *Code of State Regulations*.
2. Renewal of operating permits. The operating permit is renewable on

the date specified in the initial operating permit and for periods of five (5) years after the initial permit term expires. In order to renew the operating permit an installation shall—

- A. Apply to the director for renewal of the operating permit and test within ninety (90) days prior to the renewal date;
 - B. Demonstrate that the installation maintained all system components in good operating order during the preceding operating permit term including prompt efforts to establish compliance following “out-of-order” notices;
 - C. Schedule staff director-approved tests prior to the expiration date of the permit, notify the staff director of test dates at least fourteen (14) days prior to test dates and provide documentation that the system passed the tests;
 - D. Maintain records according to subsection (4)(F) of this rule;
 - E. An installation using a system that is decertified by CARB shall establish compliance with this rule within one (1) year or by the next renewal date of the operating permit whichever is longer. Failure to establish compliance will result in nonrenewal of the operating permit; and
 - F. After January 1, 2001, no operating permit shall be renewed without documentation that the Stage II system in use at the installation can be demonstrated to achieve ninety-five percent (95%) efficiency as specified in paragraph (3)(E)1. of this rule. Replacement of equipment and/or components in place as part of an approved system on January 1, 1999, shall not be required as long as the equipment and/or components pass operating permit tests.
- (J) 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 H₂O) 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 point five (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 operations; and
 2. Repair and retest within fifteen (15) days, a vapor recovery system that exceeds the limits in paragraph (3)(J)1. of this rule; and
 3. Reporting and record keeping shall be per subsection (4)(F) of this rule.
 3. Maintain written records of inspection reports, enforcement

documents, gasoline deliveries, routine and unscheduled maintenance and repairs and all results of tests conducted.

(K) Vapor Recovery Advisory Group. The St. Louis Vapor Recovery Advisory Group shall advise the staff director on vapor recovery issues in the St. Louis nonattainment area.

1. Composition. The advisory group will consist of one (1) representative from each of these agencies or organizations:
 - A. Missouri Department of Natural Resources, Air Pollution Control Program;
 - B. Missouri Department of Natural Resources, Hazardous Waste Program Underground Storage Tank Unit;
 - C. St. Louis City Air Pollution Control Agency or St. Louis County Air Pollution Control Agency;
 - D. Missouri Department of Agriculture, Division of Weights and Measures;
 - E. An organization representing petroleum marketers;
 - F. An organization representing petroleum equipment contractors; and
 - G. An organization representing oil refiners.
2. Purpose. The St. Louis Vapor Recovery Advisory Group shall review, study and make recommendations to the staff director on vapor recovery issues. Any member of the advisory group may bring an issue to the attention of the group. The advisory group shall—
 - A. Review vapor recovery system components that frequently fail;
 - B. Review CARB certifications and decertifications of vapor recovery system components;
 - C. Develop modifications to established tests such as the leak decay test and the back pressure blockage test. Modified test procedures shall prove integrity of Stage I and Stage II systems but may be designed for cost and time efficiency; and
 - D. Review any other vapor recovery issues deemed appropriate by the staff director.
3. Limitations. The advisory group is subject to all applicable state and federal statutes and regulations. All advisory group meetings shall comply with the Missouri Sunshine Act. The advisory group assumes no regulatory authority.

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

- (A) Owners and operators of petroleum storage tanks subject to subsection (3)(A) of this rule 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. Records shall be kept for two (2) years and made available to the staff director within five (5) business days of a request.
- (B) Owners or operators of loading installations subject to gasoline loading

subsection (3)(B) of this rule shall keep complete records documenting the number of delivery vessels loaded and their owners. Records shall be kept for two (2) years and made available to the staff director within five (5) business days of a request.

- (C) The owner or operator of stationary storage tanks subject to gasoline transfer subsection (3)(C) of this rule shall keep records documenting the vessel owners and number of delivery vessels unloaded by each owner. Records shall be kept for two (2) years and made available to the staff director within five (5) business days of a request. 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, 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.
- (D) Owners or operators of gasoline delivery vessels subject to subsection (3)(D) of this rule shall keep records of all tests and maintenance performed on the vessels. Records shall be kept for two (2) years and made available to the staff director within five (5) business days of a request. Also a copy of the vessel's current Tank Truck Tightness Test results shall be kept with the delivery vessel at all times and made immediately available to the staff director upon request.
- (E) Initial fueling and ancillary fueling of motor vehicles subject to subsection (3)(F) of this rule shall keep records on-site of all self-tests, self-inspections, defects found, repairs, and maintenance activities. Records shall be kept for two (2) years and made available to the staff director within five (5) business days of a request.
- (F) Owner/Operator Compliance. The owner or operator of a vapor recovery system subject to subsection (3)(J) of this rule shall maintain records of department permits, inspection reports, enforcement documents, training certifications, gasoline deliveries, routine and unscheduled maintenance and repairs and all results of tests conducted. Unless otherwise specified in this rule, records shall be kept for two (2) years and made available to the staff director within five (5) business days of a request.

(5) **Test Methods.**

- (A) Gasoline loading testing procedures to determine compliance with subparagraph (3)(B)2.A. of this rule shall be according to 10 CSR 10-6.030 subsection (14)(A) or by any method determined by the staff director.
- (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) Gasoline delivery vessels 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 according to 10 CSR 10-6.030 subsection (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) Fueling of Motor Vehicles. The staff director, at any time, may monitor an installation subject to subsection (3)(E) of this rule. The staff director may require a leak test, a back pressure blockage test, an air-to-liquid test, a pressure/vacuum valve test or may require any test or monitoring procedure in order to determine compliance with this rule.
- (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) Delivery vessel, vapor recovery system or gasoline loading equipment may be monitored by the staff director at any time 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) An annual staff director-approved back pressure blockage test and/or air-to-liquid test may be required. Additional testing may also be required by the staff director in order to determine proper functioning of vapor recovery equipment.
- (E) Additional testing may also be required by the staff director in order to determine proper functioning of vapor recovery equipment.
- (F) Installations containing initial fueling systems and ancillary refueling systems shall allow the department to make vapor recovery inspections at any time to ensure systems are in working order and are being maintained and operated according to permits and regulations, and manufacturer recommendations—
 1. The department and local agency Stage II inspectors shall be allowed access in a timely manner. Department and local agency Stage II inspectors shall make every attempt to avoid disrupting assembly line production. This may be done by allowing initial fueling site personnel to make repairs on the spot, or within a reasonable time frame. However, this consideration will not affect recording of defects or enforcement action; and
 2. After repairs are made and notification by the plant is received, the department or local agency shall reinspect all defects found in official Stage II inspections. Failure by an installation to notify the department of repairs and request reinspection within fifteen (15) days of repair may result in enforcement action.
- (G) All emission controls that are approved by the director will not be considered federally enforceable, and will not shield a source from the federal obligation to comply with the underlying emission controls, by the EPA until submitted

to EPA and approved by EPA in the state implementation plan.