Kansas Administrative Regulations

Department of Health and Environment

Article 19.—Ambient Air Quality Standards and Air Pollution Control—Volatile Organic Compound Emissions.

28-19-66. Volatile organic compounds (VOC) liquid storage in external floating roof tanks.

(a) No person shall place, store, or hold in any stationary tank, reservoir, or other container not having a permanent fixed roof and capable of holding more than 40,000 gallons of any VOC liquid with a true vapor pressure of 1.5 pounds per square inch absolute (psia) or greater at storage conditions unless the container is equipped with an external floating roof having a primary seal system. The container shall also be equipped with a continuous secondary seal extending from the floating roof to the container wall if:

(1) the container is of welded construction with a metallic type shoe seal, a liquid mounted foam seal, a liquid mounted liquid filled seal or any other closure device which has been demonstrated to the satisfaction of the department to be an equivalent primary seal system, and the true vapor pressure of the stored VOC liquid is four psia or greater at storage conditions;

(2) the container floating roof has a vapor mounted primary seal, unless the seal can be demonstrated to the satisfaction of the department to be equivalent to a metallic or liquid mounted seal, in which case the requirements of subsection (a)(1) apply; or

(3) the container is of riveted construction.

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

(1) There shall be no visible holes, tears, or other openings in the seal or the seal fabric;

(2) they shall be intact and there shall be no visible gaps between the secondary seal and the wall of the storage tank; and

(3) when a vapor mounted seal is demonstrated to the satisfaction of the department to be an equivalent primary closure device, the accumulated area of openings

exceeding one-eighth inch in width between the secondary seal and the tank wall shall not exceed one square inch per foot of tank diameter.

(c) All openings in the external floating roof, except for automatic bleeder vents, rim space vents and leg sleeves, shall provide a projection below the liquid surface. The openings shall be equipped with a cover, seal or lid. The cover, seal or lid shall be in a closed position at all times except when the roof is floated off or landed on the roof leg supports and rim vents shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. No VOC liquid shall accumulate on the floating roof. Any emergency roof drain shall be provided with a slotted membrane fabric cover or equivalent cover that covers at least 90 percent of the area of the opening.

(d) The following are specifically exempted from the requirements of this regulation:

(1) external floating roof tanks having capacities less than 10,000 barrels used to store produced crude oil and condensate prior to lease custody transfer;

(2) a metallic-type shoe seal in a welded tank which has a secondary seal from the top of the shoe seal to the tank wall;

(3) external floating roof tanks storing waxy, heavy pour crudes; and

(4) external floating roof tanks with other closures or devices demonstrated to the satisfaction of the department to be equal in efficiency for purposes of air pollution control.

(e) The owner or operator of a facility subject to the provisions of this regulation shall:

(1) within 16 weeks after the facility becomes subject to the provisions of this regulation, submit a control plan to the department providing for final compliance as expeditiously as practicable but not later than the date prescribed by subsection (e)(5) of this regulation;

(2) award contracts or purchase orders for seal systems or other equipment necessary for compliance within 24 weeks after the facility becomes subject to the provisions of this regulation;

(3) initiate on site construction or installation activities required for compliance within 48 weeks after the facility becomes subject to the provisions of this regulation;

(4) complete on site construction or installation of equipment for compliance within 100 weeks after the facility becomes subject to the provisions of this regulation; and

(5) demonstrate final compliance with applicable provisions of this regulation within two years after the facility becomes subject to the provisions of this regulation except that final compliance shall be demonstrated within one year after the facility becomes subject to the provisions of this regulation where such compliance does not require the purchase, relocation or construction of equipment items other than piping.

(f) The owner or operator of each affected storage tank shall visually inspect the floating roof primary seal each time the storage tank is emptied and degassed, but no less than once every five years. A visual inspection of the secondary seal shall be conducted semi-annually and the secondary seal gap measurements shall be conducted annually to ensure compliance with (b)(2) and (b)(3). The owner or operator shall repair any damage to the secondary seal or seal fabric within 72 hours of finding secondary seal damage and repair primary seal damage prior to refilling the storage tank.

(g) The owner or operator of each affected storage tank shall maintain records on a monthly basis for two years from the date of record at the facility available for department inspection for:

(1) amount and type of VOC liquids stored/ turned over;

(2) inspection dates with the corresponding findings;

(3) date and description of repairs of each storage tank and floating roof; and

(4) the average temperature on a monthly basis of the stored VOC liquids.

(h) The provisions of this regulation shall be applicable only to VOC liquid storage tanks operated at facilities subject to the provisions of either K.A.R. 28-19-64, 28-19-67 or 28-19-68.

(Authorized by K.S.A. 65-3005, 65-3010; effective, E-81-28, Sept. 10, 1980; effective May 1, 1981; amended, T-88-55, Dec. 16, 1987; amended May 1, 1988.)

***** Authenticated Kansas Administrative Regulation *****