

(Adopted December 4, 1987)(Amended April 1, 1988)(Amended July 14, 1995)
(Amended May 2, 2008)

**RULE 1149. STORAGE TANK AND PIPELINE CLEANING AND
DEGASSING**

(a) Purpose and Applicability

The purpose of this rule is to reduce Volatile Organic Compounds (VOCs) and toxics emissions from roof landings, cleaning, maintenance, testing, repair and removal of storage tanks and pipelines. This rule applies to the cleaning and degassing of a pipeline opened to atmosphere outside the boundaries of a facility, stationary tank, reservoir, or other container, storing or last used to store VOCs.

(b) Definitions

- (1) **CLEANING** is the process of washing or rinsing a stationary tank, reservoir, pipelines, or other container or removing vapor, sludge, or rinsing liquid from a stationary tank, reservoir, or other container.
- (2) **DEGASSING** is the process of removing organic gases from a stationary tank, reservoir, pipelines, or other container.
- (3) **DRAIN-DRY BREAKOUT TANK** is an above ground storage tank designed such that the floating roof rests on support legs no higher than one foot along the tank shell with a bottom sloped to a sump or sumps such that no product or sludge remains on the tank bottom and walls after emptying except clingage and is primarily used to receive product from pipelines and to distribute product back into pipelines.
- (4) **EXEMPT COMPOUNDS** are defined in Rule 102 -- Definition of Terms.
- (5) **FACILITY** means any source or group of sources or other air contaminant-emitting activities that are located on one or more contiguous properties within the District, in actual physical contact or separated solely by a public roadway or other public right of way, and are owned by the same person (or by persons under common control).
- (6) **LIQUID BALANCING** is a process in which an organic liquid having a Reid vapor pressure subject to this rule is replaced in a floating roof storage tank by an organic liquid with a Reid vapor pressure that is not subject to this rule without landing the floating roof on its internal supports.

- (7) LIQUID LEAK is the dripping of liquid VOC at the rate of more than three drops per minute.
- (8) NATURAL GAS is a mixture of hydrocarbons, with at least 80 percent methane by volume and less than 10 percent by weight VOC, determined according to the test method specified in paragraph (d)(3).
- (9) REID VAPOR PRESSURE (RVP) is the vapor pressure of a product determined in a volume of air four times greater than the liquid volume at 100° F.
- (10) VAPOR LEAK is the detection of gaseous volatile organic compounds in excess of 5,000 ppmv, measured as methane.
- (11) VAPOR TIGHT CONDITION is a condition that exists when the reading on a portable hydrocarbon analyzer is less than 500 parts per million (ppm), measured as methane, above background, measured using EPA Reference Method 21.
- (12) VOLATILE ORGANIC COMPOUND (VOC) is as defined in Rule 102.

(c) Requirements

- (1) A stationary tank, reservoir, or container of equal or greater capacity and containing or last containing any organic liquid with a vapor pressure equal or greater than in Table 1 shall not be opened to the atmosphere unless the emissions are controlled by one of the following:
 - (A) Liquid balancing; or
 - (B) Other control techniques such that the gaseous VOC concentration within the tank, reservoir or other container is reduced to less than 5,000 ppmv, measured as methane, for at least one hour after degassing operations have ceased.

Table 1 Capacity and Vapor Pressure Rule Applicability	
Capacity gallons (liters)	Vapor Pressure (RVP)
500 (1,893)	3.9 psia
26,420 (100,000)	2.6 psia
100,000 (378,500)	0.5 psia

- (2) The roof of a floating storage tank containing or last containing a VOC liquid with a Reid vapor pressure greater than 25 mm Hg (0.5 psi) may not rest upon its support legs after it has been emptied unless emissions are controlled by one of the following:
 - (A) The vapor space created is vented to a control device approved by the Executive Officer; or
 - (B) The gaseous VOC concentration within the tank, reservoir or other container is reduced to less than 5,000 ppmv, measured as methane, for at least one hour after degassing operations have ceased.
- (3) In lieu of meeting the requirements of paragraph (c)(2), drain-dry breakout tanks shall be maintained in a vapor tight condition outside the tank shell while the roof is resting upon its support legs and shall be monitored monthly. Records shall be maintained pursuant to paragraph (c)(11). Owners or operators of facilities requiring tank modifications to meet the drain-dry breakout tank definition and utilize this compliance option shall make the modifications according to the following schedule:
 - (A) At least 1/4 of the tanks subject to this provision by August 1, 2009;
 - (B) At least 1/2 of the tanks subject to this provision by August 1, 2010;
 - (C) At least 3/4 of the tanks subject to this provision by August 1, 2011; and
 - (D) All tanks subject to this provision by August 1, 2012.

By August 1, 2008, an owner or operator shall submit to the District a compliance plan identifying the applicable tanks and the schedule for modification completion. Applicable tanks shall be maintained in a vapor tight condition outside the tank shell while resting upon its support legs and monitored monthly.
- (4) Effective June 1, 2008, pipelines with a diameter of 6 inches or greater containing or last containing a VOC liquid with a Reid vapor pressure greater than 134 mm Hg (2.6 psi) shall not be opened to the atmosphere unless emissions are controlled by one of the following:
 - (A) The vapor space created is vented to a control device approved by the Executive Officer; or

- (B) The gaseous VOC concentration within the pipeline is reduced to less than 5,000 ppmv, measured as methane, for at least one hour after degassing operations have ceased; or
- (C) The gaseous VOC concentration outside the pipeline, as measured pursuant to paragraph (d)(1) while the pipeline is open, is less than 5,000 ppmv, measured as methane.

The process of removing liquid from pipelines shall be continuous and the liquid shall be immediately transferred into a container that meets the requirements of paragraph (c)(9). During the liquid removal process, the gaseous VOC concentration standard stated in paragraph (c)(4) will not apply.

- (5) Equipment used in the cleaning or degassing process shall be free of liquid and vapor leaks. This includes, but is not limited to: the degassing equipment, vacuum truck, pumps, hoses, and connections.
- (6) Effective June 1, 2008, vacuum trucks used to remove liquid, sludge or vapors from tanks or pipelines subject to this rule shall not exhaust vapors to the atmosphere greater than 500 ppmv, measured as methane. Until January 1, 2009, this provision will not apply after the tank or pipeline has met the requirements of paragraphs (c)(1), (c)(3) or (c)(4).
- (7) The District shall be notified of the intent to degas any tank or pipeline subject to the rule. Initial notifications shall be submitted in a written format approved by the Executive Officer at least two (2) hours and no more than two (2) days prior to the start of the degassing operation. The initial notification shall include:
 - (A) Start date and time;
 - (B) Tank or pipeline owner, address, tank location and applicable tank permit numbers;
 - (C) Degassing operator's name, contact person, telephone number and applicable control equipment permit numbers; and
 - (D) Tank or pipeline capacity, volume of space degassed and materials stored.

A follow-up notification, using a form approved by the Executive Officer which is fully completed, including associated notification fees, as set forth in Rule 301 – Permitting and Associated Fees, must be submitted to the District postmarked, received or delivered no later than three business days following the degassing activity.

- (8) The VOC concentration in the exhaust stream of any control device shall be less than 500 ppmv, measured as methane. When carbon adsorption is used for degassing:
 - (A) An organic vapor monitor/analyzer approved by the Executive Officer or designee shall be installed and operated at any exit of the carbon adsorption device to determine the concentration of hydrocarbon discharged to the atmosphere.
 - (B) An owner or operator shall not regenerate any spent carbon from a carbon adsorber unless the regeneration is conducted using equipment operating under a valid permit to operate issued by the Executive Officer or designee.
- (9) Any liquids or sludge removed from the tank or pipeline prior to the tank meeting the requirements of paragraphs (c)(1), (c)(3) or (c)(4), shall be handled or disposed of in closed containers that are free of liquid and vapor leaks or in a manner previously approved by the Executive Officer.
- (10) A person engaged in the off-site cleaning or degassing of stationary storage tanks shall complete the cleaning and degassing operations in accordance with the requirements of subdivision (c) within 14 days of receiving the tanks.
- (11) Records shall be maintained by the owner and operator for two (2) years, or five (5) years if the facility is a Title V facility, and be made available to the Executive Officer or designee upon request. The records shall include, but are not limited to:
 - (A) All notification requirements under paragraph (c)(7);
 - (B) Tank or pipeline owner, address and applicable tank permit numbers;
 - (C) Tank or pipeline degassing operator's name, contact person, telephone number and applicable control equipment permit numbers;
 - (D) Tank or pipeline capacity, volume of vapor space degassed and materials stored;
 - (E) The flow rate and gaseous VOC concentration vented to the degassing equipment, if applicable;
 - (F) The gaseous VOC concentration of the degassing equipment exhaust, if applicable;

- (G) The total amount of VOC processed in the degassing equipment, if applicable; and
- (H) All readings measured according to EPA Reference Test Method 21, as specified in subdivision (d).

(d) Test Methods

For the purpose of this rule, the following test methods shall be used.

- (1) Measurement of gaseous VOC concentrations shall be conducted according to EPA Reference Method 21 using an appropriate analyzer calibrated with methane at a distance of 1 cm (0.4 inch) or less from the source. For pipelines, the probe inlet shall be located one foot away from the opening in the pipeline. When determining compliance with subparagraphs (c)(1)(B) or (c)(2)(B), the probe inlet of the monitoring instrument shall be located no more than 1 foot above the bottom of the tank or no more than 1 foot above the surface of the sludge material on the bottom of the tank. For upright, cylindrical aboveground tanks, the probe inlet shall be located at least 2 feet away from the inner surface of the tank wall.
- (2) Reid vapor pressure is determined by ASTM D 323-90.
- (3) The VOC content of gases shall be determined according to ASTM Method D 1945.

(e) Exemptions

- (1) The provisions of this rule shall not apply to the degassing of less than 100 feet of a pipeline.
- (2) The provisions of this rule shall not apply to the degassing of less than 0.25 miles of a pipeline that contained or previously contained any organic liquid having a Reid vapor pressure less than 202 mm Hg (3.9 psi).
- (3) The provisions of subdivision (c) shall not apply to natural gas pipelines.
- (4) The provisions of subdivision (c) shall not apply while connecting or disconnecting degassing equipment, sampling emissions, purging inert gas from pipelines when reintroducing product or while connecting or disconnecting pipelines and associated control techniques or control equipment.