Chapter 170: DEGASSING OF PETROLEUM STORAGE TANKS, MARINE VESSELS, AND TRANSPORT VESSELS.

SUMMARY: This rule requires owners and operators of petroleum storage tanks, marine vessels, and transport vessels storing or transporting certain liquid petroleum products to control emissions of volatile organic compounds during degassing operations.

# Applicability

1. This regulation applies statewide.
2. This regulation applies to the degassing of any of the following where the most recent previous product stored or transported was an affected product as defined by this Chapter:
3. Petroleum storage tanks with a nominal storage capacity of 39,000 gallons or more located at a petroleum storage facility required to obtain an air emission license pursuant to *Major and Minor Source Air Emission License Regulations,* 06-096 C.M.R. ch. 115 or *Part 70 Air Emission License Regulation*, 06-096 C.M.R. ch. 140;
4. Transport vessels; and
5. Marine vessels with a nominal storage capacity of 10,000 barrels (420,000 gallons) or more.

# Exemptions

1. Petroleum storage tanks with a nominal storage capacity of less than 39,000 gallons, transport vessels used for commercial and residential delivery, and marine vessels with a nominal storage capacity of less than 10,000 barrels (420,000 gallons) are exempt from the requirements of this Chapter.
2. Maintenance or repair activities on petroleum storage tanks including preventative maintenance, roof repair, primary seal inspection, or removal/ installation of a secondary seal are exempt from the requirements of this Chapter when the following conditions are met:
3. The activity can be accomplished without product being moved into or out of the tank; and
4. The activity is completed within seven calendar days.
5. Degassing in the case of an emergency or spill response is exempt from the requirements of this Chapter. The determination of whether a qualifying emergency exists is at the sole discretion of the Department.
6. Any marine vessel which has sustained damage which prevents a cargo tank's opening from being properly secured, the vapor control system from being operated, or the pressure/vacuum relief valves from operating is exempt from the requirements of this Chapter; however, all reasonable measures shall be taken to minimize VOC emissions in such circumstances.
7. Any marine vessel when it is operating outside Maine’s Territorial Waters as defined by 12 M.R.S. § 6001 is exempt from the requirements of this Chapter.

# Definitions

As used in this Chapter, unless otherwise indicated, the following terms have the listed meanings.

1. **Affected product.** “Affected product” means gasoline, aviation gasoline, ethanol, and crude oil. For the purposes of this Chapter, propane or compressed gases, residual fuel oils, and distillate fuel oils are not considered affected products.
2. **Degassing or Degassing event.** “Degassing” or “Degassing event” means the process of removing organic vapors from a petroleum storage tank, transport vessel, or marine vessel cargo tank during or in preparation for human entry, cleaning, and/or maintenance activity.
3. **Liquid leak.** “Liquid leak” means the visible dripping of an affected product.
4. **Marine vessel.** “Marine vessel” means any watercraft, including oil tankers and barges, used as a means of transportation to carry affected products over water.
5. **Marine vessel cargo tank.** “Marine vessel cargo tank” means a liquid-tight shell designed to contain the cargo.
6. **Petroleum storage facility.**“Petroleum storage facility” means a storage facility that receives affected products from refineries or other storage locations primarily by pipeline or marine vessel and delivers those products to refineries, other storage facilities, bulk plants, or to commercial or retail accounts by pipeline, marine vessel, or transport vessel. For the purposes of this Chapter, a petroleum storage facility does not include aboveground petroleum storage tanks located at industrial manufacturing or electrical generating facilities.
7. **Petroleum storage tank.** “Petroleum storage tank” means an aboveground container which is used for the storage of affected products.
8. **Transport vessel.** “Transport vessel” means any land-based mode of transportation (truck or rail) equipped with a storage tank that is used to transport affected products. Vessels used exclusively for maintenance and spill response are not considered to be transport vessels.
9. **Vapor control system.** “Vapor control system” means the equipment and systems used to reduce volatile organic compound emissions from a degassing event conducted on petroleum storage tanks, marine vessel cargo tanks, and transport vessels.
10. **Vapor leak.** “Vapor leak” means a failure of containment that results in the presence of gaseous volatile organic compounds at or above 500 parts per million by volume (ppmv) measured as methane above background on a portable hydrocarbon analyzer, in accordance with 40 C.F.R. Part 60, Appendix A, Method 21 as amended 10/17/2000.
11. **Vapor tight condition.** “Vapor tight condition” means the condition that exists when the reading on a portable hydrocarbon analyzer is less than 500 parts per million by volume (ppmv), measured as methane above background, in accordance with 40 C.F.R. Part 60, Appendix A, Method 21 as amended 10/17/2000.

# Control Requirements

1. The owner or operator shall perform the following when emptying and degassing a petroleum storage tank, marine vessel cargo tank, or transport vessel containing, or most recently containing, an affected product:
2. To the extent practicable, empty the petroleum storage tank, marine vessel cargo tank, or transport vessel of the affected product; and
3. Exhaust the vapor space of the petroleum storage tank, marine vessel cargo tank, or transport vessel to a vapor control system designed to achieve a VOC control efficiency of at least 95 percent until the VOC concentration is less than 5,000 ppmv, measured as methane, or is 10 percent or less of the lower explosive limit (LEL), as methane, for at least one hour.
4. The vapor control system used in the 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.
5. The intentional bypassing of a vapor control device used during degassing is prohibited. However, as appropriate, the owner or operator may temporarily remove for no longer than one hour a suitable tank fitting, such as a manway, to facilitate connection to the vapor control system.
6. Any visible or audible liquid or vapor leak originating from the vapor control device or other associated product recovery device shall be repaired as soon as possible.
7. All transport vessels carrying, or which most recently carried, an affected product shall be maintained in a vapor tight condition at all times until the VOC vapors remaining in the vessel are discharged to a vapor control system.
8. All marine vessel cargo tanks containing, or which most recently contained, affected products shall have all cargo tank closures properly secured until the vapors are discharged to a vapor control system.
9. The owner or operator shall comply with the following to control emissions from any sludge removed from a petroleum storage tank containing, or which most recently contained, an affected product. These requirements do not apply when sludge is immediately transferred (e.g., pumped) to a floating roof tank whose roof is not resting on its legs.
10. During sludge removal, the owner or operator shall vent emissions from the vessel receiving the sludge to a vapor control system designed to achieve a VOC control efficiency of at least 95 percent;
11. The removed sludge must be transported in containers that are vapor-tight and free of liquid leaks; and
12. Until final disposal, removed sludge must be stored in containers that are vapor-tight and free of liquid leaks or in tanks that are vented to a vapor control system designed to achieve a VOC control efficiency of at least 95 percent.

# Inspection Requirements

The following inspection requirements shall apply during a degassing event for any petroleum storage tank, marine vessel cargo tank, or transport vessel subject to this Chapter.

1. At least once per calendar day, the owner or operator shall inspect the vapor control system for liquid and vapor leaks. To check for vapor leaks, the owner or operator shall use photo ionization detection (PID) technology or flame ionization detection (FID) technology.
2. If a liquid or vapor leak is observed, degassing must be discontinued within two hours of leak observance unless the leak is repaired or discontinuing degassing would present an imminent safety hazard.

# Test Methods

1. When determining vapor leaks pursuant to Section 5(A), measurement of VOC concentrations shall be conducted in accordance with 40 C.F.R. Part 60, Appendix A, Method 21, as amended 10/17/2000 using an appropriate analyzer calibrated with methane, at a distance of one inch (2.54 cm) or less from the source.
2. When determining compliance with Section 4(A)(2) of this Chapter, the probe inlet of the monitoring instrument shall be located in the line between the tank or vessel being degassed and the control device.
3. Alternative test methods may be allowed upon written approval by the Department.

# Monitoring Requirements

The following monitoring requirements apply during a degassing event of any petroleum storage tank, marine vessel cargo tank, or transport vessel subject to this Chapter. Monitoring at least once every 15 minutes is required to demonstrate compliance with the continuous monitoring requirements in this subsection.

1. Any monitoring device used to comply with this subsection must be calibrated, maintained, and operated according to the manufacturer's instructions.
2. To demonstrate compliance with Section 4(A)(2) of this Chapter, the owner or operator shall monitor the VOC concentration in the line between the tank or vessel being degassed and the control device at least four times per hour, once during each 15‑minute interval.
3. The owner or operator shall monitor and record any operational parameters necessary to demonstrate the proper functioning of the vapor control system used to comply with this Chapter at all times when the system is in use.
4. For a carbon adsorption system, the owner or operator shall continuously monitor and record the exhaust gas VOC concentration to detect any breakthrough. For the purpose of this Chapter, breakthrough is defined as a measured exhaust gas VOC concentration exceeding 100 ppmv above background, expressed as methane.
5. For a catalytic incinerator or regenerative thermal oxidizer, the owner or operator shall continuously monitor the inlet and outlet gas temperature.
6. For a thermal oxidizer or flare, the owner or operator shall continuously monitor for presence of flame.
7. Alternative monitoring methods may be allowed upon written approval by the Department.
8. The owner or operator shall contact the Department at least 30 days prior to using a vapor control system not listed above and submit for the Department’s approval a site-specific monitoring plan for the proposed vapor control system.

# Recordkeeping

For each degassing event, the following records shall be maintained for two years and shall be made available to the Department upon request.

1. Owner or operator company name, contact person name, and telephone number;
2. Petroleum storage tank, transport vessel, or marine vessel cargo tank capacity;
3. Type of affected product most recently stored in the petroleum storage tank, transport vessel, or marine vessel cargo tank and the estimated quantity (gallons) remaining therein prior to degassing;
4. Volume (cubic feet) of vapor space degassed;
5. Type of vapor control system used;
6. Design control efficiency of the vapor control system;
7. Results of all liquid and vapor leak inspections and repairs conducted in accordance with the provisions of Section 5 of this Chapter;
8. Results of any testing conducted in accordance with the provisions specified in Section 6 of this Chapter;
9. Estimate of VOC emissions from the degassing event before control efficiency is applied (i.e., pre-control emissions); and
10. Estimate of VOC emissions from the degassing event after application of controls as required by this chapter.

STATUTORY AUTHORITY:

 38 M.R.S. Sections 585 and 585-A

EFFECTIVE DATE:

 June 27, 2022 – filing 2022-121