

The Department is amending Regulation 1124 (Formerly Reg. 24) by replacing Section 46, which is currently reserved, with the following. Section 46 does not change any other sections of Regulation 24.

46.0 Crude Oil Lightering Operations.
5/11/07

46.1 Applicability.

- 46.1.1 The requirements in Section 46.0 of this regulation, with the exception of 46.3.7 of this regulation, apply to the owner or operator of a lightering service that carries out crude oil lightering operations in the waters of the State. The requirement in 46.3.7 of this regulation applies to the owner of the crude oil being lightered in the waters of the State.
- 46.1.2 While carrying out emergency lightering operations, the owner or operator of a lightering service subject to Section 46.0 of this regulation is subject only to the requirements of 46.8 of this regulation.
- 46.1.3 The owner or operator of a lightering service subject to Section 46.0 of this regulation may be required to obtain, revise, or amend permits issued by the Department pursuant to Regulations 1102, 1125, and 1130 of 7 DE Admin Code, where applicable.
- 46.1.4 The requirements of Section 46.0 of this regulation are in addition to all other applicable State and Federal rules and regulations.
- 46.1.5 Nothing in Section 46.0 of this regulation shall be construed to require any act or omission that would be in violation of any rules or regulations of the United States Coast Guard or to prevent any act that is necessary to secure the safety of personnel, property, or the environment.

46.2 Definitions.

As used in Section 46.0 of this regulation, all terms not defined herein shall have the meaning given them in Regulation 1101 or in Section 2 of this regulation.

“Baseline volume” means the average annual volume, in barrels per year, of crude oil lightered in the waters of the State during calendar years 2004 and 2005. If an existing lightering service did not carry out lightering operations throughout 2004 and 2005, the baseline volume for that existing lightering service shall be the average annual volume of crude oil lightered in the waters of State during the 24 month period beginning with its first lightering operation after December 31, 2003.

“Controlled lightering operation” means a lightering operation in which the VOC emissions are being controlled by the use of a vapor balancing system.

“Depressurization venting” means the release of vapors to the atmosphere from the ship to be lightered, the service vessel or the vapor balancing system during controlled lightering operations.

“Emergency lightering operations” means the transfer of crude oil cargo to mitigate or prevent a cargo spill, to stabilize a vessel whose integrity has been compromised, or to comply with the requirements of a Coast Guard Captain of the Port Order issued under the authority of the Ports and Waterways Safety Act, 33 USC 1221, as implemented by 33 CFR 160.111.

“Existing lightering service” means any lightering service that carried out a lightering operation in the waters of the State with an operating permit prior to the effective date of Section 46.0 of this regulation.

“Existing service vessel” means a service vessel that has been used in a lightering operation in the waters of the State prior to the effective date of Section 46.0 of this regulation.

“Lightering operation” means the transfer of crude oil from the cargo tank of a ship to be lightered to the cargo tank of a service vessel. Transfers of crude oil from the cargo tanks of a lightering service’s marine tank vessel to the cargo tanks of another marine tank vessel or reverse lightering is exempt from the requirements of Section 46.0 of this regulation.

“Lightering service” means any owner or operator that, under contract, carries out a lightering operation.

“Marine tank vessel” means any marine vessel, which is specifically constructed or converted to carry liquid bulk cargo in cargo tanks.

“New lightering service” means any lightering service that is not an existing lightering service.

“New service vessel” means a service vessel that is not an existing service vessel.

“Ozone Action Day” means a day that is predicted, based on forecasted weather conditions, to reach unhealthy ozone concentrations. Frequently called a Code Red Day, an Ozone Action Day is declared prior to 1430 hours (local time) for the following day.

“Service vessel” means the marine tank vessel receiving crude oil during a lightering operation.

“Ship to be lightered” means the marine tank vessel delivering crude oil during a lightering operation.

“Uncontrolled lightering” means the period or periods when VOC emissions are vented from the service vessel to the atmosphere during a lightering operation.

“Uncontrolled lightering operation” means a lightering operation conducted without vapor balancing.

“Vapor balancing” means the collection and transfer of vapors displaced by the incoming crude oil from the cargo tank of a service vessel into a cargo tank of the ship to be lightered.

“Vapor control system” means an arrangement of piping and equipment used to control vapor emissions collected from a marine tank vessel. For the purposes of Section 46.0 of this regulation, vapor control system, also, includes vapor balancing.

“Vapor leak” means a gaseous leak that is detectable by sight, sound, or smell.

“Vapor tight service vessel” means a marine tank vessel that has successfully demonstrated vapor tightness using the method in either paragraph (c)(1) or (c)(2) of 40 CFR 63.565 within the preceding twelve months.

“Waters of the State” means those waters within the boundaries of the State, including the 12 mile circle described from New Castle and extended to the low water mark on the eastern side of the Delaware River and extending below the 12 mile circle with the middle of the shipping channel through the Delaware River and Bay and extending to the Atlantic Ocean and including those waters of the territorial sea which are in direct contact with the coast of Delaware, extending from the line of ordinary low water seaward for a distance of 3 geographical miles. This definition shall include any waters beyond the 3-mile mark as authorized by Federal Law.

46.3 Standards.

- 46.3.1 When carrying out a lightering operation, the owner or operator of a lightering service subject to Section 46.0 of this regulation shall collect and transfer the VOC emissions from the service vessel to the ship to be lightered by vapor balancing.
- 46.3.2 When vapor balancing, the owner or operator of a lightering service subject to Section 46.0 of this regulation shall only use vapor tight service vessels.
- 46.3.3 Prior to vapor balancing, the owner or operator of a lightering service subject to Section 46.0 of this regulation shall verify that all valves in the vapor balancing system of the service vessel are correctly positioned to allow the collection and control of VOC emissions.
- 46.3.4 During vapor balancing, the owner or operator of a lightering service subject to Section 46.0 of this regulation shall verify that there are no vapor leaks in the vapor balancing system of the service vessel. Whenever a vapor leak is detected:
 - 46.3.4.1 A first attempt at repair shall be made prior to the completion of the lightering operation.
 - 46.3.4.2 If a vapor leak in the vapor balancing system of the service vessel can not be repaired prior to the completion of the lightering operation, the leak shall be tagged and recorded.

- 46.3.4.3 The vapor leak shall be repaired prior to the date that the service vessel is next used in a lightering operation.
- 46.3.4.4 Following completion of the repair, the service vessel shall be leak tested using the method in either paragraph (c)(1) or (c)(2) of 40 CFR 63.565.
- 46.3.5 During lightering operations, the owner or operator of a lightering service subject to Section 46.0 of this regulation shall only use service vessels equipped with submerged fill pipes.
- 46.3.6 When vapor balancing, the owner or operator of a lightering service subject to Section 46.0 of this regulation shall request information from the operator of the ship to be lightered on the total number of depressurization ventings by the ship to be lightered during each lightering operation. The owner or operator of the lightering service is not responsible for enforcing the requirement that the operator of the ship to be lightered provide the depressurization venting information or for any inaccuracies in the information provided by the operator of the ship to be lightered.
- 46.3.7 When vapor balancing, the owner of the crude oil shall require the owner or operator of the ship to be lightered to provide the owner or operator of the lightering service the total number of depressurization ventings by the ship to be lightered at the conclusion of each lightering operation. The owner of the crude oil is not responsible for enforcing the requirement that the operator of the ship to be lightered provide the depressurization venting information or for any inaccuracies in the information provided by the operator of the ship to be lightered.
- 46.4 Compliance schedule.
 - 46.4.1 The owner or operator of a lightering service subject to Section 46.0 of this regulation shall comply with the following requirements.
 - 46.4.1.1 The owner or operator of an existing lightering service shall provide the following information to the Department not later than 90 days after the effective date of Section 46.0 of this regulation.
 - 46.4.1.1.1 The name or identification of existing service vessels that are expected to be used in lightering operations in the waters of the State after 2006.
 - 46.4.1.1.2 The expected date that the vapor balancing system will be installed on each existing service vessel or the date the vapor balancing system was first used, if the existing service vessel is equipped with a vapor balancing system.

- 46.4.1.2 The owner or operator of a lightering service shall provide the following information to the Department upon the initial use of a new service vessel in the waters of the State.
 - 46.4.1.2.1 The name or identification of the new service vessel.
 - 46.4.1.2.2 The date that the new service vessel commenced lightering operations in the waters of the State.
 - 46.4.1.2.3 A statement of whether the new service vessel is equipped with a vapor balancing system. If not equipped with a vapor balancing system, a statement on the expected date that the vapor balancing system will be installed on the new service vessel or the reason that a vapor balancing system will not be installed on that new service vessel.
- 46.4.1.3 Compliance with standards.
 - 46.4.1.3.1 The owner or operator of a new lightering service shall comply with the requirements of 46.3 of this regulation upon initial lightering operation or the effective date of this regulation, whichever is later.
 - 46.4.1.3.2 The owner or operator of an existing lightering service shall comply with the requirements of 46.3.1 of this regulation to the greatest extent practicable and shall comply with the requirements of 46.3.2 through 46.3.6 of this regulation when vapor balancing.
- 46.4.1.4 Maximum allowable uncontrolled lightering volume.
 - 46.4.1.4.1 Beginning 12 months after the initial lightering operation or the effective date of this regulation, whichever is later, a new lightering service's 12-month rolling total volume of uncontrolled lightering shall not exceed 5 percent of the new lightering service's total volume lightered for that same 12-month period.
 - 46.4.1.4.2 Beginning May 1, 2008, the 12-month rolling total volume of uncontrolled lightering shall not exceed an existing lightering service's baseline volume multiplied by the percentages listed in Table 46-1 of this regulation.

Beginning on	Maximum allowable uncontrolled lightering volume
May 1, 2008	80 %
May 1, 2010	61 %

May 1, 2012	43 %
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- 46.4.1.5 The total volume of uncontrolled lightering for any given lightering operation shall be calculated using the following equation.

$$TUV = \sum_{i=1}^m (V)_i + \sum_{j=1}^n (EV)_j \quad \text{Eq. 46-1}$$

Where,

TUV = the total uncontrolled volume for each given lightering operation. This total volume is used in the determination of 12-month rolling total volume of uncontrolled lightering in 46.4.1.4 of this regulation.

V = the volume of crude oil transferred to the service vessel when displaced vapors are emitted directly to the atmosphere rather than collected and controlled by vapor balancing.

EV = the equivalent volume of crude oil transferred corresponding to the collected and controlled vapors emitted from the service vessel to the atmosphere as a result of depressurization venting. The equivalent volume of crude oil shall be calculated using paragraph (d)(2)(i)(D)(10) of 40 CFR 63.1257 or a method approved by the Department.

i = the individual uncontrolled venting when transferring crude oil.

j = the individual depressurization venting.

m = the total number of uncontrolled ventings of displaced vapors when transferring crude oil for each given lightering operation.

n = the total number of depressurization ventings for each given lightering operation.

- 46.4.1.6 VOC emissions reduction and audits.

Beginning in February 2010, the Department shall conduct an annual audit of lightering service records to identify the frequency and duration of VOC ventings from the ships to be lightered. If the Department finds that ventings from the ships to be lightered reduce the VOC emission reductions achieved by the lightering services to a level below the maximum allowable uncontrolled lightering volume required in Table 46-1 of this regulation, the Department shall implement solutions, which could include amending Section 46.0 of this regulation.

- 46.4.2 Ozone Action Day limitations.

Beginning May 1, 2007, uncontrolled lightering operations shall be curtailed as follows on any day that the Department declares an Ozone Action Day.

46.4.2.1 Uncontrolled lightering operations shall not be carried out from 0230 hours until 1630 hours (local time) of the declared Ozone Action Day. However, if uncontrolled lightering operations have begun prior to the declaration of the Ozone Action Day, those lightering operations may continue until 0230 hours (local time) or until the service vessel is fully loaded, whichever is later.

46.4.2.2 If the Department declares consecutive Ozone Action Days, the owner or operator of a lightering service shall, to the greatest extent practicable, minimize uncontrolled lightering operations on the second and subsequent consecutively declared Ozone Action Days as follows:

46.4.2.2.1 Carrying out controlled lightering operations, if vapor balancing compatible service vessels and ships to be lightered are available.

46.4.2.2.2 Rescheduling the uncontrolled lightering operations to the periods of 1630 hours to 0230 hours (local time) of the second and subsequent consecutively declared Ozone Action Days.

46.4.3 No later than January 1, 2014 and every 5 years thereafter, the Department, owners or operators of existing lightering services subject to Section 46.0 of this regulation, and owners of crude oil subject to 46.3.7 of this regulation shall determine the feasibility of achieving a 5 per cent maximum allowable uncontrolled lightering volume. If a 5 per cent maximum allowable uncontrolled lightering volume is determined to be feasible, the Department shall amend the requirements of Table 46-1 of this regulation within two years. The amended requirements shall establish a maximum allowable uncontrolled lightering volume of 5 per cent.

46.4.4 If the feasible maximum allowable uncontrolled lightering volume determined in 46.4.3 of this regulation is greater than 5 per cent, the Department shall amend the requirements of Table 46-1 of this regulation within two years. The amended requirements shall establish the feasible maximum allowable uncontrolled lightering volume determined in 46.4.3 of this regulation.

46.4.5 Any changes to the requirements of Table 46-1 of this regulation shall be made in accordance with the requirements of 7 Del.C. Ch 60.

46.5 Compliance Plan.

46.5.1 Within 120 days after the effective date of Section 46.0 of this regulation or upon initial startup of each vapor balancing system, whichever is later, the owner or operator of a lightering service shall develop and implement a compliance plan

that describes how initial and ongoing compliance will be demonstrated. The owner or operator of a lightering service shall make the compliance plan for each vapor balancing system available for inspection, upon request, by the Department.

46.5.2 Initial Compliance.

To demonstrate initial compliance, the owner or operator of a lightering service shall provide the Department with the information specified in 46.5.2.1 and 46.5.2.2 of this regulation.

46.5.2.1 A copy of the service vessel's vapor control system Approval Letter issued by or on behalf of the United States Coast Guard in accordance with 46 CFR 39.10-13 and 46 CFR 31.01-03 or United States Coast Guard approved equivalent.

46.5.2.2 A copy of the service vessel's initial test certification demonstrating vapor tightness using the method in either paragraph (c)(1) or (c)(2) of 40 CFR 63.565.

46.5.3 Ongoing Compliance.

The ongoing compliance demonstration plan shall include, at a minimum, the information specified in 46.5.3.1 through 46.5.3.5 of this regulation.

46.5.3.1 The recommended instrumentation for the continuous measurement and recording of the operating pressure of the service vessel.

46.5.3.2 The recommended operating and maintenance procedures for the vapor balancing system.

46.5.3.3 The recommended startup, shutdown, and malfunction plan for the vapor balancing system, which shall include the approved calculation methodology to determine the total uncontrolled volume in 46.4.1.5 of this regulation.

46.5.3.4 The recommended operating procedures to prevent inadvertent uncontrolled VOC emissions to demonstrate compliance with 46.3.3 of this regulation.

46.5.3.5 The recommended leak testing procedures to demonstrate compliance with 46.3.4 of this regulation.

46.5.4 To the extent practical, the lightering service's standard operating and maintenance manuals and standard log sheets may be used to satisfy the requirements of the compliance plan, provided these manuals and log sheets contain all of the data necessary to meet the individual requirements of 46.5.3 of this regulation.

46.6 Equivalent methods of control.

- 46.6.1 Non-vapor balancing control technologies can be installed to control VOC emissions during lightering operations. New and existing lightering services may apply for the approval of an alternative control technology by submitting a complete request in accordance with the requirements of 46.6.2 and 46.6.3 of this regulation.
- 46.6.2 Upon receipt of a written request, the Department may approve the use of an alternative control technology to satisfy the requirements of 46.3.1 of this regulation.
- 46.6.3 The written request must contain a complete description of the alternative control technology, proposed compliance demonstration plan, proposed testing procedures, proposed recordkeeping requirements, and the expected startup date.

46.7 Recordkeeping.

The owner or operator of a lightering service subject to Section 46.0 of this regulation shall keep the records specified in this paragraph in a readily accessible location for at least five years. These records shall be made immediately available to the Department on verbal or written request. For the purposes of 46.7 of this regulation, the terms “readily accessible location” and “immediately available” may apply to records located on a service vessel.

- 46.7.1 The owner or operator of an existing lightering service subject to Section 46.0 of this regulation shall keep calculations, including documentation of data, required to determine the baseline volume of the lightering service.
- 46.7.2 The owner or operator of an existing lightering service subject to Section 46.0 of this regulation shall keep calculations, including documentation of data, required to determine the 12-month rolling total volume of uncontrolled lightering of their lightering service in accordance with 46.4.1.4 of this regulation.
- 46.7.3 Beginning on the effective date of Section 46.0 of this regulation or upon initial lightering operation in the waters of Delaware, whichever is later, the owner or operator of a lightering service subject to Section 46.0 of this regulation shall keep the following information for each lightering operation.
 - 46.7.3.1 The dates and times that the lightering operation began and ended.
 - 46.7.3.2 The lightering location.
 - 46.7.3.3 The name or identification of the service vessel or vessels involved.
 - 46.7.3.4 The name or identification of the ship to be lightered.
 - 46.7.3.5 The name or identification of the owner of the crude oil to be transferred.

- 46.7.3.6 The total volume of crude oil transferred during the lightering operation.
- 46.7.3.7 The total uncontrolled volume of crude oil transferred during the lightering operation, including documentation of the data required to calculate the total uncontrolled volume in accordance with 46.4.1.5 of this regulation.
- 46.7.4 Beginning on the effective date of Section 46.0 of this regulation or upon the initial startup of a service vessel's vapor balancing system, whichever is later, the owner or operator of a lightering service shall keep the following information.
 - 46.7.4.1 Vapor tightness documentation for the service vessel in accordance with 46.3.2 of this regulation. The documentation shall include, at a minimum, the information specified in 46.7.4.1.1 through 46.7.4.1.6 of this regulation.
 - 46.7.4.1.1 The service vessel name or identification.
 - 46.7.4.1.2 The name and address of the owner or operator of the service vessel.
 - 46.7.4.1.3 The date and location of vapor tightness test.
 - 46.7.4.1.4 The vapor tightness test method used.
 - 46.7.4.1.5 The test results.
 - 46.7.4.1.6 The tester's name and signature.
 - 46.7.4.2 Records of the total number of depressurization ventings by the ship to be lightered in accordance with 46.3.6 of this regulation, when vapor balancing.
 - 46.7.4.3 Operating logs and the pressure monitoring results for the vapor balancing system of the service vessel, when vapor balancing.
 - 46.7.4.4 Records of the occurrence and duration of a malfunction of the vapor balancing system of the service vessel, when vapor balancing.
 - 46.7.4.5 Records of any corrective action taken, as a result of a malfunction, that was inconsistent with the startup, shutdown, and malfunction plan, when vapor balancing.
 - 46.7.4.6 Records or logs of inspections conducted to prevent inadvertent uncontrolled VOC emissions in accordance with 46.3.3 of this regulation, when vapor balancing.

- 46.7.4.7 Records or logs of leak test inspections conducted in accordance with 46.3.4 of this regulation, when vapor balancing.
- 46.7.4.8 Maintenance logs and records of any repairs made in accordance with 46.3.4 of this regulation.
- 46.7.4.9 Records identifying whether vapor balancing was or was not conducted.
- 46.7.4.10 If vapor balancing was not conducted, records identifying the reason that vapor balancing was not attempted.
- 46.7.4.11 If vapor balancing was conducted and there was an uncontrolled volume of crude oil transferred during the lightering operation, records identifying the reasons the lightering operation was not fully controlled.

46.8 Emergency lightering operation exemption.

The owner or operator of a lightering service shall be exempted from the requirements of Section 46.0 of this regulation while carrying out emergency lightering operations, except for the requirements of 46.8.1 and 46.8.2 of this regulation.

46.8.1 The owner or operator of a lightering service that carried out emergency lightering operations shall submit a written notification to the Department within 24 hours of the completion of the emergency lightering operations. The notification shall include, at minimum, the following information.

46.8.1.1 A brief description of the emergency, which may be limited to the following:

46.8.1.1.1 The name, organization, and telephone number of the individual requesting the emergency lightering operation,

46.8.1.1.2 The name and location of ship to be lightered, and

46.8.1.1.3 The circumstances of concern.

46.8.1.2 The name, organization, and telephone number of the individual submitting the written notification.

46.8.1.3 The written notification may be submitted to the Department by fax or electronic mail.

46.8.2 The owner or operator of a lightering service that carried out emergency lightering operations shall submit a written report to the Department within 30

days following the completion of the emergency lightering operations. The report shall include, at minimum, the following information.

- 46.8.2.1 A brief description of the emergency, which may be limited to the following:
 - 46.8.2.1.1 The name, organization, and telephone number of the individual requesting the emergency lightering operation,
 - 46.8.2.1.2 The name and location of the ship to be lightered, and
 - 46.8.2.1.3 The circumstances of concern.
- 46.8.2.2 The names or identifications of the service vessels involved in the emergency lightering operations.
- 46.8.2.3 The dates and times that the emergency lightering operations started and ended.
- 46.8.2.4 The total volume of crude oil transferred during the emergency lightering operations.
- 46.8.2.5 A certification by a responsible official as to the truth, accuracy, and completeness of the written report.
- 46.8.2.6 The name and signature of the responsible official certifying the written report.

46.9 Reporting requirements.

- 46.9.1 The owner or operator of a lightering service subject to Section 46.0 of this regulation shall submit to the Department an initial compliance certification not later than 90 days after the effective date of Section 46.0 of this regulation or upon the initial startup of a vapor balancing system for each service vessel, whichever is later. The initial compliance notification shall provide, at a minimum, the following information.
 - 46.9.1.1 The name, address, and telephone number of the owner or operator of the service vessel.
 - 46.9.1.2 The name or identification of the service vessel.
 - 46.9.1.3 A copy of the service vessel's vapor control system Approval Letter issued by or on behalf of the United States Coast Guard in accordance with 46 CFR 39.10-13 and 46 CFR 31.01-03 or United States Coast Guard approved equivalent.

46.9.1.4 A copy of the service vessel's initial test certification demonstrating vapor tightness using the method in either paragraph (c)(1) or (c)(2) of 40 CFR 63.565.

46.9.2 Reports of excess emissions.

The owner or operator of a lightering service subject to Section 46.0 of this regulation shall, for each occurrence of an excess emission, submit a report to the Department within 30 calendar days of becoming aware of such occurrence. Excess emissions can include, but are not limited to, failing to operate the vapor balancing system when practicable, inadvertently or knowingly venting VOCs from the vapor balancing system to the atmosphere during controlled lightering operations, conducting uncontrolled lightering operations on an Ozone Action Day during prohibited times, exceeding the maximum allowable uncontrolled lightering volume percentages in Table 46-1 of this regulation, etc. The report shall contain the following information, in addition to complying with any other reporting requirements required by the Department.

46.9.2.1 The name of the owner or operator of the lightering service.

46.9.2.2 The name or identification of the service vessel.

46.9.2.3 The date and time of first observation of the excess emission.

46.9.2.4 The cause and duration of the excess emission.

46.9.2.5 The corrective actions taken or the schedule to correct the conditions that caused the excess emission.

46.9.2.6 The estimated quantity of excess emission (pounds per lightering operation) and the operating data and calculations used in determining the magnitude of the excess emission.

46.9.3 The owner or operator of an existing lightering service subject to Section 46.0 of this regulation shall submit its baseline volume to the Department before May 1, 2007.

46.9.4 Beginning on February 1, 2008 and annually thereafter, the owner or operator of an existing lightering service subject to Section 46.0 of this regulation shall submit a report to the Department identifying the total volume of crude oil transferred for both controlled and uncontrolled lightering operations for each month of the previous calendar year.