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1. Underlined text (additions) and ~~strikeouts (deletions)~~ are changes made to the original OTC Lightering Model Rule from the September 10, 2010 draft (this current first draft).

2. **BOLDED** text for section and subsection titles or refers to agencies outside the OTC states or to special points of interest.

3. The terms [OTC STATE] and [OTC STATE REGULATORY AGENCY] are placeholders for individual State and State Regulatory Agency names.

4. Please note that States opting to promulgate rules based on this model rule must comply with State specific administrative and procedural requirements.

Draft Model Rule for Lightering Operations

PART Env-A XXXX

LIGHTERING OPERATIONS

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Env-A XXXX.01 **Applicability.**

- (a) The requirements of this regulation, with the exception of section Env-A XXXX.03(g), apply to the owner or operator of a lightering service that carries out lightering operations that include, but are not limited to: crude oil, gasoline and gasoline blending components, jet fuel components, naphtha, and diesel fuel (hereinafter referred to as "petroleum products"), in the waters of [OTC STATE]. The requirement in section Env-A XXXX.03(g) applies to the owner of the petroleum products being lightered in the waters of [OTC STATE].
- (b) While carrying out emergency lightering operations, the owner or operator of a lightering service subject to this regulation is subject only to the requirements of section Env-A XXXX.08.
- (c) The owner or operator of a lightering service subject to this regulation may be required to obtain, revise, or amend permits issued by the [OTC STATE REGULATORY AGENCY].

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- (d) The requirements of this regulation are in addition to all other applicable State and Federal rules and regulations.
- (e) Nothing in 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.

Env-A XXXX.02 Definitions.

- (a) “Baseline VOC emissions” means the average annual VOC emissions emitted during a lightering operation, in tons per year (tpy), of petroleum product(s) lightered in waters of [OTC STATE] during calendar years 20XX and 20XX, as calculated in equation B in section Env-A XXXX.04(a)(6) of this regulation. If an existing lightering service did not carry out lightering operations throughout years 20XX and 20XX, the baseline VOC emissions for that existing lightering service shall be the average annual VOC emissions from the lightering of petroleum product(s) in the waters of [OTC STATE] during the 24 month period beginning with its first lightering operation after December 31, 20XX;
- (b) “Controlled lightering operations” means a lightering operation in which the VOC emissions are being controlled by the use of a vapor balancing system;
- (c) “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;
- (d) “Emergency lightering operations” means the transfer of petroleum product 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;
- (e) “Existing lightering service” means any lightering service that carried out a lightering operation in the waters of [OTC STATE] with an operating permit prior to the effective date of this regulation;
- (f) “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 this regulation;
- (g) “Lightering operation” means the transfer of petroleum products from the cargo tank of a ship to be lightered to the cargo tank of a service vessel. Transfers of petroleum products from the cargo tank of a lightering service’s marine tank vessel to the cargo tanks of another marine tank

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- vessel or reverse lightering is exempt from the requirements of this regulation;
- (h) “Lightering service” means any owner or operator that, under contract, carries out a lightering operation;
 - (f) “Marine tank vessel” means any marine vessel, which is specifically construed or converted to carry liquid bulk cargo in cargo tanks;
 - (g) “New lightering service” means any lightering service that is not an existing lightering service;
 - (h) “New service vessel” means a service vessel that is not an existing service vessel;
 - (i) “Ozone Action Day” means [OTC STATE’S STATUTORY DEFINITION];
 - (j) “Petroleum products” means . . . [insert definition]. For the purposes of this regulation only, petroleum products include, but are not limited to, the following: crude oil, gasoline and gasoline blends, jet fuel components, naphtha, and diesel fuel;
 - (k) “Service vessel” means the marine tank vessel delivering petroleum products during a lightering operation;
 - (l) “Ship to be lightered” means the marine tank vessel delivering petroleum products during a lightering operation;
 - (m) “Uncontrolled lightering” means the period or periods when VOC emissions are vented from the service vessel to the atmosphere during a lightering operation;
 - (n) “Uncontrolled lightering operation” means a lightering operation conducted without vapor balancing;
 - (o) “Vapor balancing” means the collection and transfer of vapors displaced by the incoming petroleum product from the cargo tank of a service vessel into a cargo tank of the ship to be lightered;
 - (p) “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 this regulation, vapor control system also includes vapor balancing;
 - (q) “Vapor leak” means a gaseous leak that is detectable by sight, sound, or smell;
 - (r) “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; and

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- (s) "Waters of [OTC STATE]" means those waters within the boundaries of [OTC STATE] and extending to the Atlantic Ocean and including those waters of the territorial sea which are in direct contact with the coast of neighboring states, extending from the line of ordinary low water seaward for a distance of 3 geographic miles. This definition shall include any waters beyond the 3-mile mark as authorized by Federal Law.

Env-A XXXX.03 Standards.

- (a) When carrying out a lightering operation, the owner or operator of a lightering service subject to this regulation shall collect and transfer the VOC emissions from the service vessel to the ship to be lightered by vapor balancing.
- (b) When vapor balancing, the owner or operator of a lightering service subject to this regulation shall only use vapor tight service vessels.
- (c) Prior to vapor balancing, the owner or operator of a lightering service subject to 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.
- (d) During vapor balancing, the owner or operator of a lightering service subject to 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:
- (1) A first attempt at repair shall be made prior to the completion of the lightering operation.
 - (2) If a vapor leak in the vapor balancing system of the service vessel can not be repaired prior to completion of the lightering operation, the leak shall be tagged and recorded.
 - (3) The vapor leak shall be repaired prior to the date that the service vessel is next used in a lightering operation.
 - (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.
- (e) During lightering operations, the owner or operator of a lightering service subject to this regulation shall only use service vessels equipped with submerged fill pipes.
- (f) When vapor balancing, the owner or operator of a lightering service subject to 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

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- 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.
- (g) When vapor balancing, the owner of the petroleum product 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 petroleum products 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.

Env-A XXXX.04 Compliance Schedule.

- (a) The owner or operator of a lightering service subject to regulation shall comply with the following requirements:
- (1) The owner or operator of an existing lightering service shall provide the following information to the [OTC STATE REGULATORY AGENCY] not later than 90 days after the effective date of this regulation.
- (A) The name or identification of existing service vessels that are expected to be used in lightering operations in the waters of [OTC STATE] after 20XX.
- (B) 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.
- (2) The owner or operator of a lightering service shall provide the following information to the [OTC STATE REGULATORY AGENCY] for initial use of a new service vessel in the waters of [OTC STATE].
- (A) The name or identification of the new service vessel.
- (B) The date that the new service vessel commenced lightering operations in the waters of [OTC STATE].
- (C) 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.

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- (3) Compliance with standards.
 - (A) The owner or operator of a new lightering service shall comply with the requirements of section Env-A XXXX.03 of this regulation upon initial lightering operation or the effective date of this regulation, whichever is later.
 - (B) The owner or operator of an existing lightering service shall comply with the requirements of section Env-A XXXX.03(a) to the greatest extent practicable and shall comply with the requirements of section Env-A XXXX.03(b) through Env-A XXXX.03(g) when vapor balancing.
- (4) Maximum allowable uncontrolled VOC emissions limit from lightering operations.
 - (A) Beginning 12 months after the initial lightering operation or the effective date of this regulation, whichever is later, a new lightering service's VOC emissions for a 12-month rolling period from uncontrolled lightering shall not exceed 5 percent of the new lightering service's total VOC emissions from lightering operations for that same 12-month period.
 - (B) Beginning May 1, 20XX, VOC emissions for a 12-month rolling period from uncontrolled lightering shall not exceed an existing lightering service's baseline VOC emissions, as determined by equation B in section Env-A XXXX.04(a)(6), multiplied by the percentages listed in Table 1 of this regulation.

Table 1	
Beginning on:	Maximum allowable uncontrolled lightering VOC emissions
May 1, 20XX	80%
May 1, 20XX	61%
May 1, 20XX	43%

Table 2	
Petroleum Products	VOC Emission Factors from uncontrolled lightering (tons VOC per million barrels lightered)
Diesel	0.2
Crude oil	18.2
Jet fuel	13.1
Naptha	25.9
Gasoline and gasoline blending	70.0

product	
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- (5) The total VOC emissions from uncontrolled lightering for any given lightering operation shall be calculated using the following equation:
[EQUATION A--PLACEHOLDER]
 - (6) The baseline VOC emissions from any given lightering operation shall be calculated using the following equation:
[EQUATION B—PLACEHOLDER]
 - (7) VOC emissions reduction and audits. Beginning in February 20XX, the [OTC STATE REGULATORY AGENCY] 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 [OTC STATE REGULATORY AGENCY] finds that ventings from the ships to be lightered reduced the VOC emission reductions achieved by the lightering services to a level below the maximum allowable uncontrolled lightering volume required in Table 1 of this regulation, the [OTC STATE REGULATORY AGENCY] shall implement solutions, which could include amending this regulation.
- (b) Ozone Action Day limitations.
- (1) Beginning May 1, 20XX, uncontrolled lightering operations shall be curtailed as follows on any day that the [OTC STATE REGULATORY AGENCY] declares an Ozone Action Day.
 - (2) 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.
 - (3) If the [OTC STATE REGULATORY AGENCY] 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 Day as follows:
 - (A) Carrying out controlled lightering operations, if vapor balancing compatible service vessels and ships to be lightered are available.
 - (B) 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.

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- (4) No later than January 1, 20XX and every 5 years thereafter, the [OTC STATE REGULATORY AGENCY], owners or operators of existing lightering services subject to this regulation, and owners of petroleum products subject to section Env-A XXXX.03(g) shall determine the feasibility of achieving a 5 percent maximum allowable VOC emissions limit from uncontrolled lightering. If a 5 percent maximum allowable VOC emission limit from uncontrolled lightering is determined to be feasible, the [OTC STATE REGULATORY AGENCY] shall amend the requirements of Table 1 of this regulation within two years. The amended requirements shall establish a maximum allowable uncontrolled VOC emission limit of 5 percent.
- (5) If the feasible maximum allowable VOC emission limit from uncontrolled lightering determined by this regulation is greater than 5 percent, the [OTC STATE REGULATORY AGENCY] shall amend the requirements of Table 1 of this regulation within two years. The amended requirements shall establish the feasible maximum allowable VOC emission limit from uncontrolled lightering determined by section Env-A XXXX.04(b)(4) of this regulation.
- (6) Any changes to the requirements of Table 1 of this regulation shall be made in accordance with the statutory requirements of the administrative and procedural requirements of the [OTC STATE].

Env-A XXXX.05 Compliance Plan.

- (a) Within 120 days after the effective date 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 [OTC STATE REGULATORY AGENCY].
- (b) Initial Compliance.
 - (1) To demonstrate initial compliance, the owner or operator of a lightering service shall provide the [OTC STATE REGULATORY AGENCY] with the following information:
 - (A) 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.

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- (B) 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.
- (c) Ongoing Compliance.
- (1) The ongoing compliance demonstration plan shall include, at a minimum, the following information:
 - (A) The recommended instrumentation for the continuous measurement and recording of the operating pressure of the service vessel.
 - (B) The recommended operating and maintenance procedures for the vapor balancing system.
 - (C) The recommended startup, shutdown, and malfunction plan for the vapor balancing system, which shall include the approved calculation methodology to determine the total uncontrolled VOC emissions in section Env-A XXXX.04(a)(5) of this regulation.
 - (D) The recommended operating procedures to prevent inadvertent uncontrolled VOC emissions to demonstrate compliance with section Env-A XXXX.03(c) of this regulation.
 - (E) The recommended leak testing procedures to demonstrate compliance with section Env-A XXXX.03(d) of this regulation.
 - (2) 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 section Env-A XXXX.05(c) of this regulation.

Env-A XXXX.06 Equivalent Methods of Control.

- (a) 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 the two following sections:
 - (1) Upon receipt of a written request, the [OTC STATE REGULATORY AGENCY] may approve the use of an alternative control technology to satisfy the requirements of section Env-A XXXX.03(a) of this regulation.

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- (2) 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.

Env-A XXXX.07 Recordkeeping.

- (a) The owner or operator of a lightering service subject to this regulation shall keep the records specified in section Env-A XXXX.07 of this regulation in a readily accessible location for at least 5 years. These records shall be made immediately available to the [OTC STATE REGULATORY AGENCY] on verbal or written request. For the purposes of section Env-A XXXX.07, the terms “readily accessible location” and “immediately available” may apply to records located on a service vessel.
- (b) The owner or operator of an existing lightering service subject to this regulation shall keep calculations, including documentation of data, required to determine the baseline VOC emissions of the lightering service.
- (c) The owner or operator of an existing lightering service subject to this regulation shall keep calculations, including documentation of data, required to determine the 12-month rolling total VOC emissions from uncontrolled lightering of their lightering service in accordance with section Env-A XXXX.04(a)(4) of this regulation.
- (d) Beginning on the effective date of this regulation or upon initial lightering operation in the waters of [OTC STATE], whichever is later, the owner or operator of a lightering service subject to this regulation shall keep the following information for each lightering operation.
 - (1) The dates and times that the lightering operation began and ended.
 - (2) The lightering location.
 - (3) The name and identification of the service vessel or vessels involved.
 - (4) The name or identification of the ship to be lightered.
 - (5) The type of the petroleum product(s) to be lightered.
 - (6) The name or identification of the owner of the petroleum product(s) to be transferred.
 - (7) The total volume of petroleum product(s) transferred during the lightering operation.
 - (8) The total uncontrolled volume of petroleum product(s) transferred during the lightering operation, including documentation of the data

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required to calculate the total uncontrolled VOC emissions in accordance with section Env-A XXXX.04(a)(5) of this regulation.

- (9) The total estimated VOC emissions resulting from the lightering operations, calculated using the emission factors in Table 2 and Equation A.
- (e) Beginning on the effective date 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:
- (1) Vapor tightness documentation for the service vessel in accordance with section Env-A XXXX.03(b) of this regulation. The documentation shall include, at a minimum, the following information:
 - (A) The service vessel name or identification.
 - (B) The name and address of the owner or operator of the service vessel.
 - (C) The date and location of vapor tightness test.
 - (D) The vapor tightness test method used.
 - (E) The test results.
 - (F) The tester's name and signature.
 - (2) Records of the total number of depressurization ventings by the ship to be lightered in accordance with section Env-A XXXX.03(f) of this regulation, when vapor balancing.
 - (3) Operating logs and the pressure monitoring results for the vapor balancing system of the service vessel, when vapor balancing.
 - (4) Records of the occurrence and duration of a malfunction of the vapor balancing system of the service vessel, when vapor balancing.
 - (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.
 - (6) Records or logs of inspections conducted to prevent inadvertent uncontrolled VOC emissions in accordance with section Env-A XXXX.03(c) of this regulation, when vapor balancing.
 - (7) Records or logs of leak test inspections conducted in accordance with section Env-A XXXX.03(c) of this regulation, when vapor balancing.

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- (8) Maintenance logs and records of any repairs made in accordance with section Env-A XXXX.03(d) of this regulation.
- (9) Records identifying whether vapor balancing was or was not conducted.
- (10) If vapor balancing was not conducted, records identifying the reason that vapor balancing was not attempted.
- (11) If vapor balancing was conducted and there was an uncontrolled volume of petroleum product(s) transferred during the lightering operation, records identifying the reasons the lightering operation was not fully controlled.

Env-A XXXX.08 Emergency Lightering Operation Exemption.

- (a) The owner or operator of a lightering service shall be exempted from the requirements of this regulation while carrying out emergency lightering operations, except for the following requirements:
 - (1) The owner or operator of a lightering service that carried out emergency lightering operations shall submit a written notification to the [OTC STATE REGULATORY AGENCY] within 24 hours of a the completion of the emergency lightering operations. The notification shall include, at minimum, the following information:
 - (A) A brief description of the emergency, which may be limited to the following:
 - (i) The name, organization, and telephone number of the individual requesting the emergency lightering operation;
 - (ii) The name and location of ship to be lightered; and
 - (iii) The circumstances of concern.
 - (B) The name, organization, and telephone number of the individual submitting the written notification.
 - (C) The written notification may be submitted to the [OTC STATE REGULATORY AGENCY] by fax or e-mail.
 - (2) The owner or operator of a lightering service that carried out emergency lightering operations shall submit a written report to the [OTC STATE REGULATORY AGENCY] within 30 days following the completion of the emergency lightering operations. The report shall include, at minimum, the following information:

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- (A) A brief description of the emergency, which may be limited to the following:
 - (i) The name, organization, and telephone number of the individual requesting the emergency lightering operation,
 - (ii) The name and location of the ship to be lightered, and
 - (iii) The circumstances of concern.
- (B) The names or identifications of the service vessels involved in the emergency lightering operations.
- (C) The dates and times that the emergency lightering operations started and ended.
- (D) The type of petroleum product lightered.
- (E) The total volume of petroleum product(s) transferred during the emergency lightering operation.
- (F) A certification by a responsible official as to the truth, accuracy, and completeness of the written report.
- (G) The name and signature of the responsible official certifying the written report.

Env-A XXXX.09 Reporting Requirements.

- (a) The owner or operator of a lightering service subject to this regulation shall submit to the [OTC STATE REGULATORY AGENCY] an initial compliance certification not later than 90 days after the effective date 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:
 - (1) The name, address, and telephone number of the owner or operator of the service vessel,
 - (2) The name or identification of the service vessel,
 - (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 approval equivalent, and
 - (4) A copy of the service vessel's initial test certification vapor tightness using the method in either paragraph (c)(1) or (c)(2) of 40 CFR 63.565.

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- (b) Reports of excess emissions.
- (1) The owner or operator of a lightering service subject to this regulation shall, for each occurrence of an excess emission, submit a report to the [OTC STATE REGULATORY AGENCY] within 30 calendar days of becoming aware of such occurrence. Excess emissions can include, but are not limited to: failure 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 VOC emission percentages in Table 1 of this regulation, et cetera. The report shall contain the following information, in addition to complying with any other reporting requirements required by the [OTC STATE REGULATORY AGENCY]:
 - (A) The name of the owner or operator of the lightering service,
 - (B) The name or identification of the service vessel,
 - (C) The date and time of first observation of the excess emission,
 - (D) The cause and duration of the excess emission,
 - (E) The corrective actions taken or the schedule to correct the conditions that caused the excess emission, and
 - (F) The estimated quantity of excess VOC emissions (in tons) and the operating data and calculations used in determining the magnitude of the excess emission.
 - (2) The owner or operator of an existing lightering service subject to this regulation shall submit its baseline VOC emission value to the [OTC STATE REGULATORY AGENCY] before May 1, 20XX.
 - (3) Beginning on February 1, 20XX and annually thereafter, the owner or operator of an existing lightering service subject to this regulation shall submit a report to the [OTC STATE REGULATORY AGENCY] identifying the total volume of petroleum product(s) transferred and the total VOC emissions from the transfer of petroleum products for both controlled and uncontrolled lightering operations for each month of the previous calendar year.