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ORGANIC COMPOUNDS
RULE 44
MARINE TANK VESSEL OPERATIONS
(Adopted January 4, 1989)

8-44-100 GENERAL

8-44-101 Description: The purpose of this rule is to limit emissions of organic compounds into the atmosphere from marine tank vessel operations. (Amended December 7, 2005)

8-44-110 Exemption, Small Loading Events: Sections 8-44-301 through 305 of this rule shall not apply to loading events of less than 159 cubic meters (1,000 barrels). (Amended December 7, 2005)

8-44-111 Exemption, Marine Vessel Fueling: Sections 8-44-301 through 305 of this rule shall not apply to the loading of organic liquids associated with the fueling (bunkering) of marine vessels. (Amended December 7, 2005)

8-44-112 Deleted December 7, 2005
8-44-113 Deleted December 7, 2005
8-44-114 Deleted December 7, 2005
8-44-115 Exemption, Safety/Emergency Operations: Nothing in this rule shall be construed to:

115.1 Require any act or omission that would be in violation of any regulation or other requirement of the United States Coast Guard; or

115.2 Prevent any act or omission that is necessary to secure the safety of a vessel or for saving life at sea. (Amended, Renumbered December 7, 2005)

8-44-116 Limited Exemption, Equipment Leaks: The requirements of Section 8-44-305 shall not apply to any source that is subject to the leak standards of Regulation 8, Rule 18. (Adopted December 7, 2005)

8-44-200 DEFINITIONS

8-44-201 Aviation Gas: Gasoline suitable for use in piston-driven aircraft. (Adopted December 7, 2005)

8-44-202 Background: The ambient concentration of total organic compounds determined at least 3 meters (10 feet) from the equipment to be inspected and not influenced by any specific emission point. (Adopted December 7, 2005)

8-44-203 Ballasting: To load seawater into a marine tank vessel cargo tank to obtain proper propeller, rudder and hull immersion or to provide clearance under bridges or other potential obstacles. (Adopted December 7, 2005)

8-44-204 California Coastal Waters: That area between the California coastline and a line starting at the California-Oregon border at the Pacific Ocean:

- thence to 42.0°N 125.5°W
- thence to 41.0°N 125.5°W
- thence to 40.0°N 125.5°W
- thence to 39.0°N 125.0°W
- thence to 38.0°N 124.5°W
- thence to 37.0°N 123.5°W
- thence to 36.0°N 122.5°W
- thence to 35.0°N 121.5°W
- thence to 34.0°N 120.5°W
- thence to 33.0°N 119.5°W
- thence to 32.5°N 118.5°W
and ending at the California-Mexico border at the Pacific Ocean.

8-44-205 Crude Oil: A naturally occurring mixture consisting predominantly of hydrocarbons and/or sulfur, nitrogen and oxygen derivatives of hydrocarbons that is removed from the earth in a liquid state or is capable of being so removed.

8-44-206 District Waters: The water bodies within the District’s boundaries, including San Francisco Bay, San Pablo Bay, Suisun Bay, and Grizzly Bay and, in addition, the Pacific Ocean area beginning at the intersection of the Pacific Ocean and the Marin-Sonoma County boundary; and extending three miles westward to the California coastal boundary as defined in Article XXI of the California Constitution and Government Code section 170; then southeasterly along said California coastal boundary to a point due west of the intersection of the Pacific Ocean and the San Mateo-Santa Cruz boundary; then easterly to said intersection.

8-44-207 Emission Control Equipment: Any equipment, machinery, apparatus or device used to recover or reduce emissions of organic vapors from escaping into the atmosphere.

8-44-208 Gas Freeing: The introduction of fresh air into a tank to lower the level of any flammable, toxic, or inert gas to that required for a specific purpose such as tank entry or hot work.

8-44-209 Gasoline: Any petroleum-derived, volatile mixture of hydrocarbons suitable for use as a fuel in a spark-ignited, internal combustion engine.

8-44-210 Gasoline Blending Stocks: Any organic liquid used as a component of gasoline, including, but not limited to aromatic or alcohol octane boosters and oxygenates, isomerate, reformate, alkylate, straight run gasoline, cat gasoline, pyrolysis gasoline, FCC gasoline and light hydrocrackate.

8-44-211 Inert Gas: A gas or a mixture of gases, such as flue gas, containing insufficient oxygen to support the combustion of hydrocarbons.

8-44-212 Inerting: The introduction of inert gas into a tank to lower the level of oxygen throughout the atmosphere of a tank below that necessary to support the combustion of hydrocarbons.

8-44-213 JP-4 Fuel: A naphtha and kerosene-based fuel used primarily as a military fuel that meets the specifications of MIL-T-5624, MIL-PRF-5624 or MIL-DTL-5624.

8-44-214 Lightering: The loading of organic liquid into a marine tank vessel from another marine tank vessel.

8-44-215 Loading Event: An incident or occurrence beginning with the connecting of a marine terminal storage tank or a marine tank vessel cargo tank to a receiving marine tank vessel by means of piping or hoses, the transferring of organic liquid cargo from the storage or cargo tank into the receiving marine tank vessel and ending with the disconnecting of the pipes or hoses.

8-44-216 Marine Tank Vessel: Any marine vessel that transports or stores liquid bulk cargo in tanks.

8-44-217 Marine Terminal: Any facility or structure constructed to load or unload organic liquid bulk cargo into marine tank vessels.

8-44-218 Marine Vessel: Any tugboat, tanker, freighter, passenger ship, barge or other boat, ship or watercraft (as defined in Section 39037.1 of the California Health and Safety Code) except those used primarily for recreation.

8-44-219 Organic Compound: Any organic compound as defined in Regulation 1.
8-44-220 **Prior Cargo:** The last cargo that was held in a marine tank vessel cargo tank before the current loading event. A cargo tank is no longer considered to have held a prior cargo of a regulated organic liquid once it has been vented of organic gases and cleaned with an unregulated organic liquid or with an inorganic liquid.

(Adopted December 7, 2005)

8-44-221 **Purging:** The introduction of inert gas into a tank already in the inert condition with the object of (1) further reducing the existing oxygen content, or (2) reducing the existing hydrocarbon gas content to a level below which combustion cannot be supported if air is subsequently introduced into the tank, or (3) accomplishing both of the foregoing objects.

(Adopted December 7, 2005)

8-44-222 **Regulated Organic Liquid:** For the purpose of this rule, regulated organic liquid is:

222.1 Until January 1, 2007: all gasoline, gasoline blending stocks, aviation gas, JP-4 fuel and crude oil.

222.2 Effective January 1, 2007: all gasoline, gasoline blending stocks, aviation gas, JP-4 fuel, crude oil, and any other organic compound or mixture of organic compounds that exists as a liquid at actual conditions of use or storage that has a flash point less than 100 degrees F.

(Amended, Renumbered December 7, 2005)

8-44-223 **Tank Cleaning:** The process of removing hydrocarbon vapors, liquid, or residue from a tank, generally to allow entry for inspection or hot work or to allow a change of cargo.

(Adopted December 7, 2005)

8-44-224 **Unregulated Organic Liquid:** Any organic compound or mixture of organic compounds that exists as a liquid at actual conditions of use or storage and that is not a regulated organic liquid.

(Adopted December 7, 2005)

8-44-225 **Vent:** To release hydrocarbon gases from a marine tank vessel cargo tank through the manual or automatic opening of tank vents, hatches, or other openings for the purpose of reducing tank internal pressure or in connection with inerting, purging, tank cleaning, or gas freeing.

(Adopted December 7, 2005)

8-44-300 **STANDARDS**

8-44-301 **Limitations on Marine Tank Vessel Loading and Lightering:** A person shall not conduct either of the following loading operations within the District or District Waters unless emissions from the loading event are controlled in accordance with the requirements of Section 8-44-304:

301.1 Loading a regulated organic liquid into a cargo tank of a marine tank vessel; or

301.2 Loading any liquid into a cargo tank of a marine tank vessel when the tank’s prior cargo was a regulated organic liquid.

(Amended December 7, 2005)

8-44-302 **Limitations on Marine Tank Vessel Ballasting:** Within District waters, a person shall not ballast into a cargo tank for which the prior cargo was a regulated organic liquid unless either of the following requirements is met:

302.1 Emissions are controlled in accordance with the requirements of Section 8-44-304; or

302.2 Emissions are limited to the extent possible through the use of any combination of segregated ballast tanks, dedicated clean ballast tanks, internal vapor balancing, and compression ballasting.

(Amended December 7, 2005)

8-44-303 **Limitations on Marine Tank Vessel Venting:** Within the District or District Waters, a person shall not vent a cargo tank containing a regulated organic liquid or for which the prior cargo was a regulated organic liquid unless either of the following requirements is met:

303.1 Emissions are controlled in accordance with the requirements of Section 8-44-304; or
303.2 The venting occurs through (1) the automatic operation of a pressure relief valve (PRV), or other pressure relieving device intended to protect the integrity of the tank, set at the highest setpoint approved by the United States Coast Guard, or (2) manual venting to avoid an automatic release through such a PRV or device with such a setpoint when tank pressure has reached 90% of such setpoint and an automatic release is imminent.

8-44-304 Emission Control Requirements: A person conducting an operation from which emissions must be controlled pursuant to Section 8-44-301, 302 or 303 shall:

304.1 Limit emissions of organic compounds to 5.7 grams per cubic meter (2 lbs per 1000 bbls) of organic liquid loaded, or reduce emissions by at least 95 percent by weight from uncontrolled conditions; and

304.2 Use emission control equipment that is designed and operated to collect and process all organic compound emissions from the loading, ballasting, or venting operation.

8-44-305 Equipment Leaks: The following requirements apply to any loading or lightering operation subject to Section 8-44-301, and, if conducted at a marine terminal, any ballasting operation subject to Section 8-44-302 or venting operation subject to Section 8-44-303.1:

305.1 Except as allowed by Section 8-44-305.4, the owner or operator of a marine terminal shall maintain all equipment associated with the operation up to, but not including, the first connection at the vessel being loaded such that the following limits are not exceeded:
   1.1 Three drops per minute for any liquid leak; and
   1.2 1,000 ppm (expressed as methane, above background) for any gaseous leak as determined pursuant to Section 8-44-603.

305.2 Except as allowed by Section 8-44-305.4, the owner or operator of a marine vessel shall maintain all hatches, pressure relief valves, connections, gauging ports and vents, and any other equipment associated with the operation up to and including the first connection at the vessel to a loading terminal or to another vessel such that the following limits are not exceeded:
   2.1 Three drops per minute for any liquid leak; and
   2.2 10,000 ppm (expressed as methane, above background) for any gaseous leak as determined pursuant to Section 8-44-603.

305.3 Effective January 1, 2007, the owner or operator of any marine terminal or marine tank vessel engaging in an operation subject to Section 8-44-305 shall inspect the marine terminal equipment or marine tank vessel equipment for compliance with the applicable requirements of Section 8-44-305.1 or 305.2 during the operation. Vessels shall be inspected prior to loading more than 20% of the cargo.

305.4 If an owner or operator discovers a leak that exceeds the limits of Section 8-44-305.1 or 305.2, the owner or operator shall immediately tag the liquid or gas leak, shall minimize the leak within 4 hours of discovery, and shall repair the leak prior to commencement of the next operation subject to the control requirements of Section 8-44-304. If the APCO discovers a leak that exceeds the limits of Section 8-44-305.1 or 305.2, the leak shall constitute a violation of this rule.

8-44-400 ADMINISTRATIVE REQUIREMENTS

8-44-401 Deleted December 7, 2005
8-44-402 Deleted December 7, 2005
8-44-403 Notifications Regarding Safety/Emergency Exemption: Effective January 1, 2007, whenever the owner or operator of a marine terminal or marine tank vessel determines that compliance with this rule would (1) require an act or omission that would be in violation of any regulation or other requirement of the United States Coast Guard or (2) prevent an act or omission that is necessary to secure the safety
of a vessel or for saving life at sea and therefore invokes the exemption in Section 8-44-115, the APCO shall be notified in writing within 48 hours. The notification shall include a complete description of the circumstances that require the use of the exemption.

(Adopted December 7, 2005)

8-44-404 Notifications for Operations Conducted Other Than at Marine Terminals: Effective January 1, 2007, the owner or operator of a marine tank vessel that will conduct (1) a lightering operation subject to Section 8-44-301, (2) a ballasting operation subject to Section 8-44-302, or (3) cleaning within District Waters of tanks that contain a regulated organic liquid or had a prior cargo of a regulated organic liquid, shall provide written notice to the APCO no less than 24 hours prior to beginning the operation and, in addition, shall provide the following information:

404.1 The name of the marine tank vessel;
404.2 The San Francisco Bay Area agent for the vessel;
404.3 A description of the operation;
404.4 The location of the operation;
404.5 For lightering, the type (common name and trade designation), the amount of each organic liquid cargo to be loaded and the means to be used to comply with Section 8-44-301.
404.6 For ballasting, the amount of ballast water to be loaded into cargo tanks, the prior cargo (common name and trade designation) in the tanks, and the means to be used to comply with Section 8-44-302.
404.7 For tank cleaning, the approximate combined capacity of the tanks to be cleaned, the prior cargo (common name and trade designation) of each tank, and a description of the method to be used to clean each tank.

(Adopted December 7, 2005)

8-44-500 MONITORING AND RECORDS

8-44-501 Record Keeping – Marine Terminals: The owner or operator of a marine terminal subject to this rule shall maintain the following records. The records shall be maintained at the terminal for at least five years and shall be made available to the APCO upon request.

501.1 For each loading event of any organic liquid, records that include the following information:
1.1 The name of the vessel loaded;
1.2 The owner, country of registration, operator or charterer (if applicable), and San Francisco Bay Area agent for the vessel;
1.3 The arrival and departure dates and times for the vessel;
1.4 For each cargo tank loaded, the tank identifying number or designation, the type (common name and trade designation) and amount of each organic liquid cargo loaded;
1.5 Effective January 1, 2007, for each cargo tank loaded with an organic liquid cargo other than gasoline, gasoline blending stocks, aviation gas, JP-4 fuel, or crude oil, the flash point of the organic liquid cargo loaded and the temperature of the liquid as loaded;
1.6 For each cargo tank loaded, the prior cargo (common name and trade designation) carried by the tank and, for prior cargo other than gasoline, gasoline blending stocks, aviation gas, JP-4 fuel, or crude oil, the flash point of the prior cargo;
1.7 For any required flash point data, the source of the data and a copy of the source document or analysis;
1.8 The condition of each tank prior to being loaded (inerted, gas freed, crude oil washed, water washed, organic liquid flushed (including flushing liquid), etc.)
1.9 The means used to comply with Section 8-44-304;
1.10 Effective January 1, 2007, date and time of inspections required by Section 8-44-305.3, and identification of equipment discovered to have a liquid or gas leak in excess of the limits in Section 8-44-305.1,
including time of discovery, measured liquid leak rate or organic concentration, measures taken to minimize or repair the leak, repaired leak rate and the time these measures were completed.

501.2 For each ballasting operation subject to Section 8-44-302 conducted at a marine terminal, records that include the following information:
  2.1 The information specified in Sections 8-44-501.1.1 through 501.1.3;
  2.2 For each cargo tank loaded with ballast water, the tank identifying number or designation, and amount of ballast water loaded;
  2.3 For each cargo tank loaded with ballast water, the prior cargo (common name and trade designation) carried by the tank;
  2.4 The means used to comply with Section 8-44-302.
  2.5 Effective January 1, 2007, date and time of inspections required by Section 8-44-305.3, and identification of equipment discovered to have a liquid or gas leak in excess of the limits in Section 8-44-305.1, including time of discovery, measured liquid leak rate or organic concentration, measures taken to minimize or repair the leak, repaired leak rate and the time these measures were completed.

501.3 For each venting operation subject to Section 8-44-303.1 conducted at a marine terminal, records that include the following information:
  3.1 The information specified in Sections 8-44-501.1.1 through 501.1.3;
  3.2 For each cargo tank vented, the tank identifying number or designation and the prior cargo (common name and trade designation) carried by the tank;
  3.3 For each cargo tank vented, the activity leading to the venting (inerting, purging, gas freeing, tank cleaning, or other specified activity);
  3.4 The means used to comply with Section 8-44-303.
  3.5 Effective January 1, 2007, date and time of inspections required by Section 8-44-305.3, and identification of equipment discovered to have a liquid or gas leak in excess of the limits in Section 8-44-305.1, including time of discovery, measured liquid leak rate or organic concentration, measures taken to minimize or repair the leak, repaired leak rate and the time these measures were completed.

(Amended December 7, 2005)

8-44-502 Record Keeping – Marine Tank Vessels: Effective January 1, 2007, the San Francisco Bay Area owner, operator, or agent for a marine tank vessel shall maintain the following records. The records shall be maintained by the owner, operator, or agent for at least five years and shall be made available to the APCO upon request.

502.1 For each lightering operation subject to Section 8-44-301, records that include the following information:
  1.1 The name of the vessels involved;
  1.2 The owner, country of registration, operator or charterer (if applicable), and San Francisco Bay Area agent for each vessel;
  1.3 The beginning and ending dates and times for operation;
  1.4 The location of the operation;
  1.5 For each cargo tank loaded, the tank identifying number or designation, the type (common name and trade designation) and amount of each organic liquid cargo loaded;
  1.6 The condition of each tank prior to being loaded (inerted, gas freed, crude oil washed, water washed, organic liquid flushed (including flushing liquid), etc.)
  1.7 The means used to comply with Section 8-44-301;
  1.8 Date and time of inspections required by Section 8-44-305.3, and identification of equipment discovered to have a liquid or gas leak in excess of the limits in Section 8-44-305.2, including time of discovery, measured liquid leak rate or organic concentration, measures taken to minimize or repair the leak, repaired leak rate and the time these measures were completed.
502.2 For each ballasting operation subject to Section 8-44-302, records that include the following information:
   2.1 The name of the vessel;
   2.2 The owner, country of registration, operator or charterer (if applicable), for the vessel;
   2.3 The beginning and ending dates and times for operation;
   2.4 The location of the operation;
   2.5 The amount of ballast water loaded into cargo tanks and the prior cargo (common name and trade designation) for the tanks;
   2.6 The means used to comply with Section 8-44-302.
   2.7 Date and time of inspections required by Section 8-44-305.3, and identification of equipment discovered to have a liquid or gas leak in excess of the limits in Section 8-44-305.2, including time of discovery, measured liquid leak rate or organic concentration, measures taken to minimize or repair the leak, repaired leak rate and the time these measures were completed.

502.3 For each venting operation subject to Section 8-44-303.1, records that include the following information:
   3.1 The name of the vessel;
   3.2 The owner, country of registration, operator or charterer (if applicable), for the vessel;
   3.3 A description of the venting operation;
   3.4 The beginning and ending dates and times for operation;
   3.5 The location of the operation;
   3.6 The prior cargo (common name and trade designation) for the tanks;
   3.7 The means used to comply with Section 8-44-303.
   3.8 Date and time of inspections required by Section 8-44-305.3, and identification of equipment discovered to have a liquid or gas leak in excess of the limits in Section 8-44-305.2, including time of discovery, measured liquid leak rate or organic concentration, measures taken to minimize or repair the leak, repaired leak rate and the time these measures were completed.

502.4 For each tank cleaning operation involving tanks that contain a regulated organic liquid or that had a prior cargo of a regulated organic liquid and that was conducted (1) within District Waters or (2) within California Coastal Waters by a vessel on a voyage that involved a call at a port or marine terminal within the District or District Waters:
   4.1 The name of the vessel;
   4.2 The owner, country of registration, operator or charterer (if applicable), for the vessel;
   4.3 The beginning and ending dates and times for operation;
   4.4 The location of the operation;
   4.5 The designation or number of each tank cleaned, the volume of each tank, the prior cargo (common name and trade designation) of each tank, and a description of the method used to clean each tank.

8-44-503 Record Keeping - Exemptions: Effective January 1, 2007, a person that performs an operation and that seeks exemption for that operation under Sections 8-44-110 or 111 shall maintain the following records. These records shall be retained for at least five years and shall be made available to the APCO upon request.

503.1 For Section 8-44-110: The date of the loading event, names of loading and receiving vessels, location of the event, type of material loaded (common name and trade designation), and volume of load.

503.2 For Section 8-44-111: The date of the loading event, names of loading and receiving vessels, location of the event, type of material loaded (common name and trade designation), and volume of load.

503.3 For Section 8-44-115: The date of the operation, names of any vessels involved, location of the operation, and description of the operation.

(Adopted December 7, 2005)
8-44-504 **Burden of Proof:** Persons seeking to demonstrate compliance with Section 8-44-304 must maintain adequate test data and provide verification opportunities to the APCO on request.

(Amended, Renumbered December 7, 2005)

8-44-600 **MANUAL OF PROCEDURES**

8-44-601 **Determination of Emission Factors and Emission Control Equipment Efficiencies:** Emission factors of organic compounds, or the emission reduction efficiency of a control device, as specified in Section 8-44-304.1, shall be determined during the final 50% of the loading event, or for at least 6 hours during the final 50% of the loading event. Emissions shall be determined in accordance with one of the following methods: 1) BAAQMD Manual of Procedures, Volume IV, ST-34; 2) U.S. EPA Method 25; 3) U.S. EPA Method 25A; 4) an alternate method approved in writing by the APCO and U.S. EPA.

(Amended December 7, 2005)

8-44-602 **Deleted December 7, 2005**

8-44-603 **Leak Determinations:** Measurements of organic compounds leaking in violation of Section 8-44-305.1 or 305.2 shall be made in accordance with EPA Reference Method 21 (40 CFR 60, Appendix A), or by an alternate method approved in writing by the APCO and U.S. EPA.

(Amended December 7, 2005)

8-44-604 **Flash Point Determinations:** Measurements of flash point required by this rule shall be in accordance with ASTM Standard Test Method D56 ("Standard Test Method for Flash Point by Tag Closed Cup Tester") or ASTM Standard Test Method D93 ("Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester"), whichever is applicable, or by an alternate method approved in writing by the APCO and U.S. EPA.

(Adopted December 7, 2005)