

State of Connecticut
REGULATION
of the

NAME OF AGENCY:

Energy and Environmental Protection

Concerning

SUBJECT MATTER OF REGULATION:

**Amendment of Section 22a-174-20
Repeal of Section 22a-174-30
Adoption of Section 22a-174-30a
of the
Regulations of Connecticut State Agencies (RCSA)
Control of Organic Compound Emissions**

Section 1. Subdivision (7) of subsection (a) of section 22a-174-20 of the Regulations of Connecticut State Agencies is amended to read as follows:

(7) The external surfaces of any storage tank containing VOCs with a vapor pressure of 0.75 pounds per square inch or greater under standard conditions that has a maximum capacity of 2,000 gallons (7,570 liters) or greater and is exposed to the rays of the sun shall be either mill-finished aluminum or painted and maintained white upon the next painting of the tank[,] or [upon being returned to service after being out of service for the first time after the effective date of this subsection] by March 7, 2024, whichever is sooner, [and no less than 10 years after the effective date of this subsection, except the] or upon being returned to service after being out of service. The requirement to use mill-finished aluminum or white paint shall not apply to words and logograms applied to the external surface of the storage tank for purposes of identification provided such symbols do not cover more than 20 percent of the external surface area of the tank's sides and top or more than 200 square feet (18.6 square meters), whichever is less.

Sec 2. Subdivisions (6) through (16) of subsection (b) of section 22a-174-20 of the Regulations of Connecticut State Agencies are amended to read as follows:

(6) [By December 31, 1982, any person who owns or operates any dispensing facility with a stationary storage tank for gasoline having a capacity of more than two thousand (2,000) gallons and a throughput of ten thousand (10,000) gallons or more per thirty (30) day period shall install at each stationary storage tank an approved control system. The applicability of this subdivision shall be based upon a thirty day rolling average and once a loading facility exceeds this limit, the requirements of this subdivision shall always apply.] Reserved.

(7) [After December 31, 1982, no person shall install any stationary storage tank for gasoline with a capacity of more than two hundred fifty (250) gallons and a throughput of ten thousand (10,000) gallons or more per thirty (30) day period unless the tank has an approved control system. The throughput of a loading facility shall be based upon a thirty day rolling average and once a loading facility exceeds this limit, the requirements of this subdivision shall always apply.] Reserved.

(8) [Effective May 31, 1983, no person shall transfer or allow the transfer of gasoline from a delivery vehicle to a stationary storage tank subject to the provisions of subdivisions (6) or (7) of this subsection unless:

- (A) the transfer is made through a properly maintained and operated approved control system which is in good working order, connected and operating; and
- (B) there are no leaks in pressure/vacuum relief valves and hatch covers of the delivery vehicle, nor in the truck tanks, storage tank or associated vapor and liquid lines during loading or unloading.] Reserved.

(9) [No person shall dispense gasoline to a stationary storage tank having an approved control system in such a manner as to impair the collection efficiency of the control system.] Reserved.

(10) The owner or operator of a delivery vehicle shall [ensure that]:

- (A) Design, operate and maintain the delivery vehicle [is designed and maintained] to be vapor-tight at all times;
- (B) Keep [the] all hatches [are] on the delivery vehicle closed and securely fastened at all times during loading and unloading operations;
- (C) Set the pressure relief valves [are set] to release at no less than 0.7 pounds per square inch; [and]
- (D) Refill the vapor laden delivery vehicle [is refilled] only at facilities which meet the requirements of subdivisions (2) or (5) of this subsection[.];
- (E) Properly connect all hoses in the vapor balance system prior to loading and unloading;
- (F) Maintain all vapor return hoses, couplers and adapters used in gasoline delivery to be vapor-tight;
- (G) Ensure all delivery vehicle vapor return equipment is compatible in size and forms a vapor-tight connection with the vapor balance equipment on the dispensing facility storage tank;
- (H) Dispense gasoline to a stationary storage tank having an approved control system in a manner that does not interfere with the collection efficiency of the control system;
- (I) Load and unload in a manner that does not cause the delivery vehicle tank to be subject to a pressure in excess of 18 inches of water or a vacuum in excess of 6 inches of water; and
- (J) Not transfer or allow the transfer of gasoline from a delivery vehicle to a dispensing facility stationary storage tank if there are leaks in pressure/vacuum relief valves or hatch covers of the delivery vehicle, in the truck tanks or in associated vapor and liquid lines.

(11) [The Commissioner may provide an exemption to the provisions of subdivisions (5) or (6) of this subsection for economic or technological impracticability. Any exemption granted under this subdivision shall require the approval of the Administrator.] Reserved.

(12) Any owner or operator of a delivery vehicle that receives gasoline from a loading facility described in subdivisions (2) or (5) of this subsection or delivers gasoline to a dispensing facility subject to the provisions of [subdivisions (6) or (7) of this subsection] section 22a-174-30a of the Regulations of Connecticut State Agencies [or any loading facility subject to subdivision (5) of this subsection] shall not cause or permit [a] such delivery vehicle to load or unload gasoline unless:

- (A) [such] The owner or operator tests the tank on such delivery vehicle once every twelve (12) months in accordance with Method 27 as set forth in Appendix A of Title 40 [Code of Federal Regulations Part] CFR 60 or another manner accepted by the Administrator and approved by the Commissioner in accordance with section 22a-174-5 of the Regulations of Connecticut State Agencies;
- (B) [Repealed;
- (C) during] During the test specified in subparagraph (A) of this subdivision, the tank sustains a pressure change of no more than three (3) inches of water in five (5) minutes when pressurized to a gauge pressure of eighteen (18) inches of water or when evacuated to a gauge pressure of six (6) inches of water; [and]
- ~~[(D)]~~(C) [the] The delivery vehicle displays a marking near the U.S. Department of Transportation markings required by Title 49 [of the Code of Federal Regulations Section] CFR 177.824 which shows the initials “DEEP” or “DEP” and the date of the last test or comparable markings as required by either the Connecticut Department of Transportation or the Connecticut Department of Motor Vehicles[.]; and
- (D) Records of all tests performed under this subdivision shall be maintained for a minimum of five (5) years and made available to the Commissioner within three (3) business days after the Commissioner requests such records.

(13) The owner or operator of any delivery vehicle [which] that fails to meet the requirements of [subdivisions] subdivision (12) [or (14)] of this subsection shall repair and retest such vehicle within fifteen (15) days or take such vehicle out of service. Prior to returning such vehicle to service, the owner or operator shall repair and retest the vehicle.

(14) Any person who performs a test required by subdivision (12) or (13) of this subsection shall[:

- (A)] notify the Department's [Air Compliance Unit] Bureau of Air Management, Field Operations Section of the time and location of the test at least forty-eight (48) hours in advance[; and
- (B) submit a copy of the test report to the Commissioner within ten (10) days after performing a test].

(15) [The owner or operator of any delivery vehicle subject to the provisions of subdivision (12) of this subsection shall ensure that:

- (A) during loading and unloading operations the tank is not subject to a pressure in excess of eighteen (18) inches of water, nor a vacuum in excess of six (6) inches of water;
- (B) during loading and unloading operations there are no visible liquid leaks and there is never a reading equal to or greater than the Lower Explosive Limit (LEL, measured as propane) at one (1) inch from any source of potential leaks as detected by a combustible gas detector using the test procedure described in Appendix B to “Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems” (EPA-450/2-78-051); and
- (C) records of all tests performed under subdivision (12) of this subsection are maintained for a minimum of five (5) years.] The Commissioner may test a delivery vehicle during loading and unloading operations to evaluate its vapor-tightness by measuring the vapor concentration at a distance of one inch from the source with a combustible gas detector, calibrated with propane using the test procedure described in CARB TP-204.3, *Determination of Leaks*. Equipment is vapor-tight when a measured vapor concentration is less than 14,000 parts per million.

(16) The owner or operator of any loading facility[, dispensing facility] or delivery vehicle subject to the provisions of this subsection shall:

- (A) [within six (6) months of the effective date of this subdivision, develop] Develop a written operation and maintenance (O&M) plan for any equipment used to load or unload gasoline;
- (B) [within twelve (12) months of the effective date of this subdivision, develop] Develop a formal training program implementing the O&M plan for any person who receives gasoline from a loading facility described in subdivisions (2) or (5) of this subsection or delivers gasoline to a dispensing facility subject to the provisions of [subdivisions (6) or (7) of this subsection] section 22a-174-30a of the Regulations of Connecticut State Agencies or any loading facility subject to subdivision (5) of this subsection;
- (C) Maintain a copy of the O&M plan and training program materials at the subject facility; and
- [(C)] (D) [make and keep] Maintain monthly records demonstrating implementation of the O&M plan, including records of persons completing the training program required by subparagraph (B) of the subdivision, at the subject facility[; and]. All such records shall be:
 - (i) Made available to the Commissioner to inspect and copy upon request, and
 - (ii) Maintained for five (5) years from the date such record is created.

- [(D) maintain such records at the subject facility for a period of five [(5)] years, and provide such records to the commissioner upon request.]

Sec. 3. The Regulations of Connecticut State Agencies are amended by adding section 22a-174-30a as follows:

(NEW)

Section 22a-174-30a. Stage I Vapor Recovery.

(a) Definitions. For the purposes of this section, the definitions provided in this subsection shall apply. Terms used in this section that are not defined in this subsection are as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies.

- (1) “CARB” means the State of California Air Resources Board;
- (2) “CARB-approved” means a Stage I vapor recovery system or system component that is or has been tested and approved by CARB as an individual component or as part of an approved system or that is or has been tested and approved by another state using testing methods approved by CARB;
- (3) “Construct” means to install or replace all storage tanks with a capacity greater than 250 gallons, the product piping and the vent piping at a GDF during a single project;
- (4) “Delivery elbow” means a quick connect/disconnect type coupler that joins a hose from a delivery vehicle to a GDF’s storage tank riser pipe adaptor or coupler;
- (5) “Delivery vehicle” means a tank truck, tank-equipped trailer, railroad tank car, or other mobile source equipped with a storage tank used for the transportation of gasoline from a source of supply to any stationary storage tank;
- (6) “Gasoline” means any petroleum distillate or petroleum distillate and alcohol blend commercially known or sold as “gasoline” and commonly used as an internal combustion engine fuel;
- (7) “Gasoline dispensing facility” or “GDF” means any site where gasoline is transferred to motor vehicles from a stationary storage tank with a capacity of 250 gallons or more;
- (8) “Modified” means the addition, alteration, replacement or retrofit of a gasoline storage tank located at a GDF or any component fixed to such gasoline storage tank. Components of a gasoline storage tank include, but are not limited to, piping that contains gasoline or gasoline vapors and containments located over or on the gasoline storage tank;
- (9) “Stage I vapor recovery system” means a combination of pipes and hoses that create a closed system between the vapor spaces of an unloading delivery vehicle and a receiving

GDF storage tank such that vapors displaced from the GDF storage tank are transferred to the delivery vehicle tank;

- (10) “Throughput” means the number of gallons of gasoline delivered into motor vehicles at a GDF over a specified period of time;
- (11) “Two-point Stage I vapor recovery system” means a GDF storage tank possessing an entry port for a gasoline fill pipe and a separate exit port for a vapor-return connection; and
- (12) "Vapor-tight" means not capable of allowing the passage of gases at the pressures encountered.

(b) Applicability.

- (1) This section applies to the owner or operator of any GDF that has a monthly throughput of 10,000 gallons or more on or after July 1, 2015. If a monthly throughput of 10,000 gallons is exceeded, the requirements of this section shall thereafter apply.
- (2) Monthly throughput shall be calculated by adding the volume of gasoline dispensed at the GDF during the current day with the volume of gasoline dispensed at the GDF during the previous 364 days, and dividing that sum by 12. For any GDF constructed after July 1, 2014, the initial calculation of monthly throughput shall be performed on or after 365 days after the date the GDF starts dispensing gasoline to motor vehicles.
- (3) For a GDF with multiple storage tanks, the requirements of this section apply only to a storage tank with a capacity of 250 gallons or greater.
- (4) The owner or operator of a GDF that does not meet the monthly throughput requirements of subdivision (1) of this subsection shall maintain a chronological register of daily throughput of gasoline to demonstrate that this section does not apply. Such records shall be maintained for five (5) years from the date of creation and be made available to the Commissioner or the Administrator upon request. An owner or operator shall make records available to the Commissioner no later than three (3) business days after receiving such a request.

(c) Requirements.

- (1) No owner or operator of a GDF shall transfer or allow the transfer of gasoline between a delivery vehicle and a GDF stationary storage tank unless such stationary storage tank is equipped with a Stage I vapor recovery system that includes:
 - (A) A CARB-approved fill adapter; and
 - (B) A pressure/vacuum vent valve on each GDF storage tank vent pipe.
- (2) Any pressure/vacuum vent valve installed on and after July 1, 2015 shall be a CARB-approved pressure/vacuum vent valve.

- (3) The pressure specifications for any pressure/vacuum vent valve shall be as follows:
- (A) For any pressure/vacuum vent valve installed prior to July 1, 2015:
 - (i) A positive pressure setting of:
 - (I) 3.0 inches of water, plus or minus 0.5 inch, or
 - (II) 2.5 to 6.0 inches of water, and
 - (ii) A vacuum setting of 8.0 inches of water, plus or minus 2.0 inches; and
 - (B) For any pressure/vacuum vent valve installed on and after July 1, 2015:
 - (i) A positive pressure setting of 2.5 to 6.0 inches of water,
 - (ii) A negative pressure setting of 6.0 to 10.0 inches of water, and
 - (iii) The total leak rate of all pressure/vacuum vent valves at an affected facility, including connections, shall not exceed 0.17 cubic foot per hour at a pressure of 2.0 inches of water and 0.63 cubic foot per hour at a vacuum of 4 inches of water.
- (4) Except as provided in subdivision (5) of this subsection, a GDF storage tank shall be equipped with a two-point Stage I vapor recovery system. The vapor exit port of the two-point Stage I vapor recovery system shall be designed and maintained to seal in a manner that will prevent the discharge of gasoline vapors to the atmosphere when the vapor return hose is disconnected.
- (5) An owner or operator of any GDF storage tank that does not have an available port to install a two-point Stage I vapor recovery system shall install a two-point Stage I vapor recovery system when the GDF storage tank is replaced or when the product in the tank is switched from any other fuel to gasoline.
- (6) In addition to the requirements of subdivisions (1) through (5) of this subsection, an owner or operator of any GDF that has a monthly throughput of 100,000 gallons or more shall install, operate and maintain a Stage I vapor recovery system that meets the requirements of subparagraphs (A) through (F) of this subdivision. If a GDF exceeds a monthly throughput of 100,000 gallons, the requirements of this subdivision shall always apply.
- (A) All vapor line connections on the GDF storage tank shall be equipped with closures that seal upon disconnect;
 - (B) The Stage I vapor control system shall be designed such that the pressure in the delivery vehicle tank does not exceed 18 inches water pressure or 5.9 inches water vacuum during product transfer;

- (C) The vapor recovery and product adaptors and the method of connection with the delivery elbow shall be designed to prevent the over-tightening or loosening of fittings during normal delivery operations;
- (D) If a gauge well is separate from the fill tube, the gauge well shall be provided with a submerged drop tube that extends the same distance from the bottom of the storage tank as the fill pipe;
- (E) Liquid fill connections and vapor couplings shall be equipped with vapor-tight caps; and
- (F) The Stage I vapor recovery system shall be capable of meeting the static pressure performance requirement of the following equation when pressure decay testing is performed as required by subsection (d) of this section:

$$P_f = 2e^{-500.887/v}$$

Where:

P_f = Minimum allowable final pressure, inches of water

v = Total ullage affected by the test, gallons

e = Dimensionless constant equal to approximately 2.718.

(d) Testing.

- (1) The owner or operator of any GDF shall conduct each of the following tests at least once per calendar year:
 - (A) For every pressure/vacuum vent valve, a pressure/vacuum vent valve test as specified in subdivision (4) of this subsection;
 - (B) A pressure decay test as specified in subdivision (5) of this subsection; and
 - (C) A vapor-space tie-in test as specified in subdivision (7) of this subsection.
- (2) The owner or operator of any GDF constructed on and after July 1, 2015 shall conduct the tests identified in subdivision (1) of this subsection within sixty (60) days of initial operation.
- (3) The owner or operator of any GDF modified on and after July 1, 2015 shall conduct the tests identified in subdivision (1) of this subsection within sixty (60) days of completion of the modification.
- (4) Pressure/vacuum vent valve tests shall be conducted according to the current version of CARB TP-201.1E, *Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves*, as may be revised from time to time, or another test method approved by the Commissioner and the Administrator.
- (5) Pressure decay tests shall be conducted according to the current version of CARB TP-201.3, *Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery*

Systems of Dispensing Facilities, as may be revised from time to time, or another test method approved by the Commissioner and the Administrator.

- (6) The owner or operator of any GDF subject to 40 CFR 63.11120 may use the test methods specified in 40 CFR 63.11120 in lieu of the method specified in subdivision (4) or subdivision (5) of this subsection.
- (7) Vapor-space tie-in tests shall be conducted according to the current version of CARB TP-201.3C, *Determination of Vapor Piping Connections to Underground Gasoline Storage Tanks (Tie-Tank Test)*, as may be revised from time to time, or another method test approved by the Commissioner and the Administrator.
- (8) The owner or operator of any GDF who has installed a pressure management or vapor control device on a storage tank with a capacity of 250 gallons or greater, other than a device that is required to be installed and tested by this section, shall test such device annually by a method approved by the commissioner. At least sixty (60) days prior to conducting an annual test, the owner or operator shall submit a test protocol for review and approval on a form provided by the commissioner.
- (9) Any owner or operator shall:
 - (A) Notify the Department's Bureau of Air Management, Field Operations Section in writing of the time and location of a test required by this subsection at least seven (7) business days in advance; and
 - (B) Submit a copy of the test report on a form provided by the Department to the Department's Bureau of Air Management, Field Operations Section within ten (10) days after performing a test required by this subsection.
- (10) If an owner or operator fails any test required by this subsection, the owner or operator shall take corrective actions and retest no later than sixty (60) days after failing the test.

(e) Record keeping.

- (1) Any owner or operator of a GDF shall maintain the following records:
 - (A) All licenses, as that term is defined in section 4-166 of the Connecticut General Statutes, to construct or operate the GDF or to construct or operate a specific system at the GDF;
 - (B) All records and results of tests performed pursuant to subsection (d) of this section, including the date of the testing and the names, addresses, and phone numbers of the persons who performed the tests;
 - (C) A record of any maintenance or repair conducted on any part of the Stage I vapor recovery system, including a description of the maintenance or repair performed, identification of any part repaired or replaced on such Stage I vapor recovery system, the dates the maintenance or repair was performed, and a general description of the location of any part repaired or replaced;

- (D) A chronological file of all inspection reports issued by a representative of the Commissioner or the Administrator for inspections performed at the GDF;
 - (E) A chronological file of all compliance records, including orders, warnings and notices of violations, issued by a representative of the Commissioner or the Administrator; and
 - (F) A chronological register of daily throughput of gasoline.
- (2) In addition to the applicable records required by subdivision (1) of this subsection, any owner or operator of a GDF constructed after July 1, 2014 shall maintain records of the dates of the construction and the date gasoline was first dispensed to a motor vehicle.
 - (3) Records required by this subsection shall be made available to the Commissioner or the Administrator upon request. An owner or operator shall make records available to the Commissioner no later than three (3) business days after receiving such a request.
 - (4) Records shall be maintained for five (5) years from the date of creation.
 - (5) An owner or operator shall display in a conspicuous location at the GDF the address at which the records required by subdivision (1) of this subsection are maintained.

Sec. 4. As of July 1, 2015, section 22a-174-30 of the Regulations of Connecticut State Agencies is repealed.

Statement of Purpose

The primary purpose of this proposal is to remove Stage II vapor recovery requirements from the Regulations of Connecticut State Agencies (RCSA) so the regulations reflect the state's vapor recovery program for gasoline dispensing facilities (GDFs) as set out in section 22a-174e of the Connecticut General Statutes (CGS). Stage II vapor recovery systems control vapors during the refueling of vehicles by capturing the gasoline vapors displaced from the vehicles' gas tank and diverting the vapors to the storage tank at the GDF. Connecticut's Stage II vapor recovery program for GDFs was authorized by CGS section 22a-174e, as that section was in effect prior to June 18, 2013. In the 2013 legislative session, CGS section 22a-174e was revised by Public Act No. 13-120.¹ While former CGS section 22a-174e required installation of Stage II vapor recovery equipment at GDFs, Public Act No. 13-120 mandates the decommissioning of existing Stage II vapor recovery equipment and prohibits the installation of new Stage II vapor recovery equipment at GDFs. RCSA section 22a-174-30 was adopted under the authority of CGS section 22a-174e in 1992 and sets out the details of Connecticut's Stage II vapor recovery program. This proposal repeals RCSA section 22a-174-30 (section 4).

Stage I vapor recovery systems control vapors during the transfer of gasoline from a delivery vehicle to the storage tank at a GDF by diverting the displaced gasoline vapor from the GDF storage tank into the tanker compartment of the delivery vehicle unloading gasoline. Some elements of Connecticut's Stage I vapor recovery program are contained in RCSA section 22a-174-30 and others are in RCSA section 22a-174-20(b). Since the Stage I vapor recovery program must be retained as an ozone control program under the Clean Air Act, the proposal moves and consolidates those requirements to new RCSA section 22a-174-30a (sections 2 & 3). New RCSA section 22a-174-30a is drafted to be consistent with the federal requirements for controlling air emissions at GDFs (*see* 40 CFR 63 Subpart CCCCCC) and Public Act No. 13-120. The only requirement new to a GDF owner, which is not a requirement of 40 CFR 63 Subpart CCCCCC or Public Act No. 13-120, is the requirement to use a California Air Resource Board-approved pressure/vacuum vent valve upon valve replacement.

The proposal also revises RCSA section 22a-174-20(a)(7) to correct and clarify the requirements for the external surfaces of aboveground storage tanks containing volatile organic compounds (section 1).

¹ Public Act No. 13-120, *An Act Concerning Gasoline Vapor Recovery Systems*.
<http://www.cga.ct.gov/2013/ACT/pa/pdf/2013PA-00120-R00HB-06534-PA.pdf>.