

WAC 173-491-040 Gasoline vapor control requirements. (1) Fixed-roof gasoline storage tanks.

(a) All fixed-roof gasoline storage tanks having a nominal capacity greater than forty thousand gallons shall comply with one of the following:

(i) Meet the equipment specifications and maintenance requirements of the federal standards of performance for new stationary sources - Storage Vessels for Petroleum Liquids (40 C.F.R. 60, subparts K, KA and KB).

(ii) Be retrofitted with a floating roof or internal floating cover using a metallic seal or a nonmetallic resilient seal at least meeting the equipment specifications of the federal standards referred to in (a)(i) of this subsection or its equivalent.

(iii) Be fitted with a floating roof or internal floating cover meeting the manufacturer's equipment specifications in effect when it was installed.

(b) All seals used in (a)(ii) and (iii) of this subsection are to be maintained in good operating condition and the seal fabric shall contain no visible holes, tears, or other openings.

(c) All openings not related to safety are to be sealed with suitable closures.

(d) Tanks used for the storage of gasoline in bulk gasoline plants and equipped with vapor balance systems as required in subsection (3)(b) of this section shall be exempt from the requirements of subsection (1) of this section.

(2) Gasoline loading terminals.

(a) This chapter shall apply to all gasoline loading terminals with an average annual gasoline throughput greater than 7.2 million gallons.

(b) Loading facilities. Facilities for the purpose of loading gasoline into any transport tank shall be equipped with a vapor control system (VCS) as described in (c) of this subsection and comply with the following conditions:

(i) The loading facility shall employ submerged or bottom loading for all transport tanks.

(ii) The VCS shall be connected during the entire loading of all transport tanks.

(iii) The loading of all transport tanks shall be performed such that the transfer is at all times vapor tight. Emissions from pressure relief valves shall not be included in the controlled emissions when the back pressure in the VRS collection lines is lower than the relief pressure setting of the transport tank's relief valves.

(iv) All loading lines and vapor lines shall be equipped to close automatically when disconnected. The point of closure shall be on the tank side of any hose or intermediate connecting line.

(c) Vapor control system (VCS). The VCS shall be designed and built according to accepted industrial practices and meet the following conditions:

(i) The VCS shall not allow organic vapors emitted to the ambient air to exceed thirty-five milligrams per liter (three hundred twenty-two milligrams per gallon) of gasoline loaded.

(ii) The VCS shall be equipped with a device to monitor the system while the VCS is in operation.

(iii) The back pressure in the VCS collection lines shall not exceed the transport tank's pressure relief settings.

(3) Bulk gasoline plants.

- (a) This section shall apply to all bulk gasoline plants with an average annual gasoline throughput greater than 7.2 million gallons.
- (b) Deliveries to bulk gasoline plant storage tanks.
- (i) The owner or operator of a bulk gasoline plant shall not permit the loading of gasoline into a storage tank equipped with vapor balance fittings unless the vapor balance system is attached to the transport tank and operated properly. The vapor balance system shall prevent at least ninety percent of the displaced gasoline vapors from entering the ambient air. A vapor balance system that is designed, built, and operated according to accepted industrial practices will satisfy this requirement.
- (ii) Storage tank requirements. All storage tanks with a nominal capacity greater than five hundred fifty gallons and used for the storage of gasoline shall comply with the following conditions:
- (A) Each storage tank shall be equipped with a submerged fill line.
- (B) Each storage tank shall be equipped for vapor balancing of gasoline vapors with transport tanks during gasoline transfer operations.
- (C) The vapor line fittings on the storage tank side of break points with the transport tank vapor connection pipe or hose shall be equipped to close automatically when disconnected.
- (D) The pressure relief valves on storage tanks shall be set at the highest possible pressure consistent with local and state codes for fire and safety but in no case greater than ninety percent of the tank's safe working pressure.
- (iii) Transport tank requirements. All transport tanks transferring gasoline to storage tanks in a bulk gasoline plant shall comply with the following conditions:
- (A) The transport tank shall be equipped with the proper attachment fittings to make vapor tight connections for vapor balancing with storage tanks.
- (B) The vapor line fittings on the transport tank side of break points with the storage tank connection pipe or hose shall be equipped to close automatically when disconnected.
- (C) The pressure relief valves on transport tanks shall be set at the highest possible pressure consistent with local and state codes for fire and safety.
- (c) Gasoline transfer operations.
- (i) No owner or operator of a bulk gasoline plant or transport tank shall allow the transfer of gasoline between a stationary storage tank and a transport tank except when the following conditions exist:
- (A) The transport tanks are being submerged filled or bottom loaded.
- (B) The loading of all transport tanks, except those exempted under (c)(ii) of this subsection are being performed using a vapor balance system.
- (C) The transport tanks are equipped to balance vapors and maintained in a leak tight condition in accordance with subsection (6) of this section.
- (D) The vapor return lines are connected between the transport tank and the stationary storage tank and the vapor balance system is operated properly.
- (ii) Transport tanks used for gasoline and meeting the following conditions shall be exempt from the requirement to be equipped with any attachment fitting for vapor balance lines if:

(A) The transport tank is used exclusively for the delivery of gasoline into storage tanks of a facility exempt from the vapor balance requirements of subsection (4) of this section; and the transport tank has a total nominal capacity less than four thousand gallons and is constructed so that it would require the installation of four or more separate vapor balance fittings; or

(B) In eastern Washington counties, a transport tank with a total nominal capacity less than four thousand gallons shall be exempt from the requirement to be fitted with any attachment fitting for vapor balance lines if the transport tank was in use prior to July 1, 1993. Replacement transport tanks or new equipment put into use July 1, 1993, or later are exempt from vapor balance requirements only as specified in (c) (ii) (A) of this subsection.

(4) Gasoline dispensing facilities (Stage I).

(a) This section shall apply to the delivery of gasoline to gasoline dispensing facilities located in ozone nonattainment areas with an annual gasoline throughput greater than two hundred thousand gallons and total storage capacity greater than ten thousand gallons, and to gasoline dispensing facilities located in ozone attainment areas with an annual gasoline throughput greater than three hundred sixty thousand gallons and all new gasoline dispensing facilities with a total gasoline nominal storage capacity greater than ten thousand gallons.

(b) All gasoline storage tanks of the facilities defined in (a) of this subsection shall be equipped with submerged or bottom fill lines and fittings to vapor balance gasoline vapors with the delivery transport tank.

(c) Gasoline storage tanks with offset fill lines shall be exempt from the requirement of (b) of this subsection if installed prior to January 1, 1979.

(d) The owner or operator of a gasoline dispensing facility shall not permit the loading of gasoline into a storage tank equipped with vapor balance fittings from a transport tank equipped with vapor balance fittings unless the vapor balance system is attached to the transport tank and operated satisfactorily.

(5) Gasoline dispensing facilities (Stage II). **Determinations and requirements.** Ecology determines that Stage II vapor recovery systems at gasoline dispensing facilities in Cowlitz and Thurston counties are important to achieving or maintaining the NAAQS for Ozone in Clark and Pierce counties, respectively.

(a) Gasoline dispensing facilities are required to have certified Stage II vapor recovery systems under the following conditions:

(i) By December 31, 1998, all facilities located in an ozone nonattainment or maintenance plan county dispensing greater than six hundred thousand gallons of gasoline annually, except in Kitsap County, all facilities dispensing greater than eight hundred forty thousand gallons annually; and

(ii) All facilities that dispense in excess of one million two hundred thousand gallons of gasoline annually and are located in Thurston or Cowlitz counties. This requirement will end on December 31, 2002, unless ecology determines that Stage II is important to achieving or maintaining the NAAQS for Ozone in a nonattainment or maintenance plan county.

(b) Upon approval of a notice of construction under subsection (4) (e) [(5) (e)] of this section, Stage II is not required and may be removed from any gasoline dispensing facilities located in Whatcom, Skagit, Island, Lewis, and Wahkiakum counties, and from any gasoline

dispensing facility located in Thurston and Cowlitz counties dispensing less than one million two hundred thousand gallons annually.

(c) In addition to subsection (5)(a) of this section, all new and modified gasoline dispensing facilities with an annual gasoline throughput of 1.5 million gallons and above are required to have Stage II gasoline vapor recovery systems if a lot with a permanent residence is within the distance and throughput specifications of Table 1 of this subsection, and as explained in (c)(i) and (ii) of this subsection.

Table 1

Gasoline Throughput (millions of gallons)	Allowable Distance to the Property Line (meters)
1.5	20
2.0	25
4.0	38
6.0	49
8.0	58
10.0	66

(i) When the throughput is not shown in the chart, interpolate to get the distance for that throughput.

(ii) The allowable distance shall be measured from the centroid of the pumps to the nearest point on the property line of the nearest lot on which a permanent residence is located. However, if the permanent residence is located at least twice the allowable distance from the centroid of the pumps, the requirements of (c) of this subsection shall not apply.

(d)(i) Beginning on July 1, 2001, and each year thereafter, the department of ecology shall publish the canister capture rate.

(ii) When the canister capture rate reaches fifteen percent and there are no major exceptions, waivers, or other adjustments to the EPA onboard canister regulations or program implementation, the department of ecology shall revise (c) of this subsection to incorporate the effect of canisters.

(e) The owner or operator of new or modified gasoline dispensing facilities subject to any of the requirements of (a), (b) or (c) of this subsection shall file a notice of construction and obtain the approval of the local air authority prior to commencing construction or modification.

(f) The owner or operator of any gasoline dispensing facility may elect to submit a site-specific analysis of the requirement for a Stage II vapor recovery system under (c) of this subsection and request the department of ecology to evaluate it subject to the fees described in (l) of this subsection. The department of ecology will complete a second tier analysis described under WAC 173-460-090 within forty-five days of determining that the analysis submitted is complete and no additional information is needed. The requirements for gasoline vapor control shall be determined as a result of that process.

(g) Fees. The fee for new source review of a gasoline dispensing facility under this section shall be the same as the fee under WAC 173-400-116 (2)(d)(ii) except, if a site-specific review is elected under (f) of this subsection, the fee shall be the same as the fee under WAC 173-400-116 (3)(c) for a tier two analysis.

(h) This section shall apply to the refueling of motor vehicles from stationary tanks at gasoline dispensing facilities located in Washington.

(i) All gasoline dispensing facilities subject to this section shall be equipped with a certified Stage II vapor recovery system.

(j) The owner or operator of a gasoline dispensing facility subject to this section shall not transfer or allow the transfer of gasoline from stationary tanks into motor vehicle fuel tanks unless a certified Stage II vapor recovery system is used.

(k) All Stage II vapor recovery equipment shall be installed in accordance with the system's certification requirements and shall be maintained to be leak free, vapor tight, and in good working order.

(l) Whenever a Stage II vapor recovery system component is determined to be defective, the owner or operator shall take the system out of service until it has been repaired, replaced, or adjusted, as necessary.

(m) The owner or operator of each gasoline dispensing facility utilizing a Stage II system shall conspicuously post operating instructions for the system in the gasoline dispensing area. The instructions shall clearly describe how to fuel vehicles correctly using the vapor recovery nozzles and include a warning against topping off. Additionally, the instructions shall include a prominent display of ecology's toll free telephone number for complaints regarding the operation and condition of the vapor recovery nozzles.

(6) Equipment or systems failures.

(a) Specific applicability. This section shall apply to all gasoline transport tanks equipped for gasoline vapor collection and all vapor collection systems at gasoline loading terminals, bulk gasoline plants, and gasoline dispensing facilities as described in subsections (2) through (5) of this section.

During the months of May, June, July, August, and September any failure of a vapor collection system at a bulk gasoline plant or gasoline loading terminal to comply with this section requires the discontinuation of gasoline transfer operations for the failed part of the system. Other transfer points that can continue to operate in compliance may be used. The loading or unloading of the transport tank connected to the failed part of the vapor collection system may be completed during the other months of the year.

(b) Provisions for specific processes.

(i) The owner or operator of a gasoline loading terminal or bulk gasoline plant shall only allow the transfer of gasoline between the facility and a transport tank if a current leak test certification for the transport tank is on file with the facility or a valid inspection sticker is displayed on the vehicle. Certification is required annually.

(ii) The owner or operator of a transport tank shall not make any connection to the tank for the purpose of loading or unloading gasoline, except in the case of an emergency, unless the gasoline transport tank has successfully completed the annual certification testing requirements in (c) of this subsection, and such certification is confirmed either by:

(A) Have on file with each gasoline loading or unloading facility at which gasoline is transferred a current leak test certification for the transport tank; or

(B) Display a sticker near the department of transportation certification plate required by 49 C.F.R. 178.340-10b which:

(I) Shows the date that the gasoline tank truck last passed the test required in (c) of this subsection;

(II) Shows the identification number of the gasoline tank truck tank; and

(III) Expires not more than one year from the date of the leak tight test.

(iii) The owner or operator of a vapor collection system shall:

(A) Operate the vapor collection system and the gasoline loading equipment during all loadings and unloadings of transport tanks equipped for emission control such that:

(I) The tank pressure will not exceed a pressure of eighteen inches of water or a vacuum of six inches of water;

(II) The concentration of gasoline vapors is below the lower explosive limit (LEL, measured as propane) at all points a distance of one inch from potential leak sources; and

(III) There are no visible liquid leaks except for a liquid leak of less than four drops per minute at the product loading connection during delivery.

(IV) Upon disconnecting transfer fittings, liquid leaks do not exceed ten milliliters (0.34 fluid ounces) per disconnect averaged over three disconnects.

(B) Repair and retest a vapor collection system that exceeds the limits of (b) (iii) (A) of this subsection within fifteen days.

(iv) The department or local air authority may, at any time, monitor a gasoline transport tank and vapor collection system during loading or unloading operations by the procedure in (c) of this subsection to confirm continuing compliance with this section.

(c) Testing and monitoring.

(i) The owner or operator of a gasoline transport tank or vapor collection system shall, at his own expense, demonstrate compliance with (a) and (b) of this subsection, respectively. All tests shall be made by, or under the direction of, a person qualified to perform the tests and approved by the department.

(ii) Testing to determine compliance with this section shall use procedures approved by the department.

(iii) Monitoring to confirm continuing leak tight conditions shall use procedures approved by the department.

(d) Recordkeeping.

(i) The owner or operator of a gasoline transport tank or vapor collection system shall maintain records of all certification tests and repairs for at least two years after the test or repair is completed.

(ii) The records of certification tests required by this section shall, as a minimum, contain:

(A) The transport tank identification number;

(B) The initial test pressure and the time of the reading;

(C) The final test pressure and the time of the reading;

(D) The initial test vacuum and the time of the reading;

(E) The final test vacuum and the time of the reading;

(F) At the top of each report page the company name, date, and location of the tests on that page; and

(G) Name and title of the person conducting the test.

(iii) The owner or operator of a gasoline transport tank shall annually certify that the transport tank passed the required tests.

(iv) Copies of all records required under this section shall immediately be made available to the department, upon written request, at any reasonable time.

(e) Preventing evaporation. All persons shall take reasonable measures to prevent the spilling, discarding in sewers, storing in open containers, or handling of gasoline in a manner that will result in evaporation to the ambient air.

[Statutory Authority: RCW 70.94.165. WSR 98-01-184 (Order 97-07), § 173-491-040, filed 12/23/97, effective 1/23/98. Statutory Authority: 1996 c 294. WSR 97-04-012 (Order 95-15), § 173-491-040, filed 1/27/97, effective 2/27/97. Statutory Authority: RCW 70.94.331. WSR 93-13-011 (Order 92-47), § 173-491-040, filed 6/7/93, effective 7/8/93; WSR 91-14-101 (Order 90-63), § 173-491-040, filed 7/2/91, effective 8/2/91.]