

# SWCAA 491

## EMISSION STANDARDS AND CONTROLS FOR SOURCES EMITTING GASOLINE VAPORS



March 18, 2001

**SWCAA 491**  
**EMISSION STANDARDS AND CONTROLS FOR**  
**SOURCES EMITTING GASOLINE VAPORS**

<u>Section</u>		<u>Page</u>
<b>491-010</b>	<b>Policy and Purpose</b>	<b>1</b>
<b>491-015</b>	<b>Applicability</b>	<b>1</b>
<b>491-020</b>	<b>Definitions</b>	<b>1</b>
<b>491-030</b>	<b>Registration</b>	<b>4</b>
<b>491-040</b>	<b>Gasoline Vapor Control Requirements</b>	<b>4</b>
<b>491-050</b>	<b>Failures, Certification, Testing and Recordkeeping</b>	<b>12</b>
<b>491-060</b>	<b>Severability</b>	<b>14</b>

**SWCAA 491-010 Policy and Purpose**

[Statutory Authority: Chapter 70.94.141 RCW and 70.94.165 RCW. Original adoption WSR 93-16-011 filed 7/22/93, effective 8/22/93; WSR 96-21-102 filed 10/21/96, effective 11/21/96; WSR 01-05-067 filed 2/15/01, effective 3/18/01]

- (1) It is the policy of the Southwest Clean Air Agency (SWCAA) under the authority provided in Chapter 70.94.141, and 70.94.152 and 70.94.165 RCW to provide for the systematic control of air pollution from air contaminant sources within the jurisdiction of SWCAA.
- (2) It is the purpose of this regulation to establish standards for the control of air contaminants emitted from gasoline marketing and dispensing sources within the jurisdiction of SWCAA including Clark, Cowlitz, Lewis, Skamania, and Wahkiakum Counties.

**SWCAA 491-015 Applicability**

[Statutory Authority: Chapter 70.94.141 RCW and 70.94.165 RCW. Original adoption WSR 93-16-011 filed 7/22/93, effective 8/22/93; WSR 96-21-102 filed 10/21/96, effective 11/21/96; WSR 00-11-149 filed 5/24/2000, effective 6/24/2000; WSR 01-05-067 filed 2/15/01, effective 3/18/01]

This regulation applies to gasoline marketing operations within SWCAA jurisdiction, including the storage, transport, and transfer of gasoline, transfer from storage tanks into transport tanks, marine vessel loading and unloading, and transfer from storage tanks into motor vehicles. This regulation applies to facilities with above ground and underground storage tanks.

**SWCAA 491-020 Definitions**

[Statutory Authority: Chapter 70.94.141 RCW and 70.94.165 RCW. Original adoption WSR 93-16-011 filed 7/22/93, effective 8/22/93; WSR 96-21-102 filed 10/21/96, effective 11/21/96; WSR 00-11-149 filed 5/24/2000, effective 6/24/2000; WSR 01-05-067 filed 2/15/01, effective 3/18/01]

The definitions of terms contained in SWCAA 400 are by this reference incorporated into this regulation. Unless a different meaning is clearly required by context, the following words and phrases, as used in this regulation, shall have the following meanings:

- (1) "Bottom loading" means the filling of a tank through a line entering the bottom of the tank.
- (2) "Bulk gasoline plant" means a gasoline storage and transfer facility that receives more than ninety percent of its annual gasoline throughput by transport tank, and reloads gasoline into transport tanks.

## SWCAA 491

- (3) "Bunkering" means, for purpose of this rule, refueling a vessel with a fuel product where the intended use of that gasoline or fuel product is for combustion in the onboard engine of the marine vessel.
- (4) "Canister capture rate" means canister effectiveness times the percent of light duty vehicles that have onboard vapor recovery systems.
- (5) "Canister effectiveness" means the percent of refueling vapors recovered by a representative onboard vapor recovery system.
- (6) "Centroid" means the geometric center of a gas pump or a bank of gas pumps or, if a station has more than one bank of pumps, the geometric center of each bank of pumps.
- (7) "Certified vapor recovery system" means a vapor recovery system that has been certified by the California Air Resources Board (CARB). Only Stage II vapor recovery systems with a single coaxial hose can be certified. SWCAA may certify vapor recovery systems in addition to those certified by the California Air Resources Board as of the effective date of the regulation.
- (8) "Gas freed" means a marine vessel's cargo tank has been certified by a Marine Chemist as "Safe for Workers" according to the requirements outlined in the National Fire Protection Association Rule 306.
- (9) "Gasoline" means a petroleum distillate that is a liquid at standard conditions and has a true vapor pressure greater than four pounds per square inch absolute (4.0 psia) at twenty degrees C (20 °C), and is used as a fuel for internal combustion engines. Also any liquid sold as a vehicle fuel with a true vapor pressure greater than four pounds per square inch absolute at twenty degrees C (20 °C) shall be considered "gasoline" for purpose of this regulation.
- (10) "Gasoline dispensing facility" means any site dispensing gasoline into motor vehicle fuel tanks from stationary storage tanks (above ground or underground).
- (11) "Gasoline loading terminal" means a gasoline transfer facility that receives more than ten percent of its annual gasoline throughput solely or in combination by pipeline, ship or barge, and loads gasoline into transport tanks.
- (12) "Leak free" means a liquid leak of less than four drops per minute.
- (13) "Lightering" means the transfer of fuel product into a cargo tank from one marine tank vessel to another.
- (14) "Loading event" means the loading or lightering of gasoline into a marine tank vessel's cargo tank, or the loading of any product into a marine tank vessel's cargo tank where the prior cargo was gasoline. The event begins with the connection of a marine tank vessel to a storage or cargo tank by means of piping or hoses for the transfer of a fuel product from the storage or cargo tank(s) into the receiving marine tank vessel. The event ends with disconnection of the pipes and/or hoses upon completion of the loading process.
- (15) "Marine tank vessel" means any marine vessel constructed or converted to carry liquid bulk cargo that transports gasoline.
- (16) "Marine terminal" means any facility or structure used to load or unload any fuel product cargo into or from marine tank vessels.
- (17) "Marine vessel" means any tugboat, tanker, freighter, passenger ship, barge or other boat, ship or watercraft.
- (18) "Modified" means any physical change in equipment, or change in the method of operation, of a gasoline dispensing facility, terminal, or loading or unloading facility, that increases the amount of any air contaminant emitted by such source or that results in the emission of any air contaminant not previously emitted. The term modified shall be construed consistent with the definitions of modification in Section 7411, Title 42, United States Code, and with rules implementing that section. Section 7411 exempts changes in gasoline throughput not resulting directly from a physical change.

## SWCAA 491

- (19) "NAAQS" means National Ambient Air Quality Standard.
- (20) "Ozone contributing county" means a county in which the emissions have contributed to the formation of ozone in any county or area where violation of federal ozone standards have been measured, and includes: Cowlitz, Island, Kitsap, Lewis, Skagit, Thurston, Wahkiakum, and Whatcom counties.
- (21) "Permanent residence" means a single-family or multi-family dwelling or any other facility designed for use as permanent housing.
- (22) "SWCAA" means the Southwest Clean Air Agency.
- (23) "Stage I" means gasoline vapor recovery during all gasoline marketing transfer operations except motor vehicle refueling.
- (24) "Stage II" means gasoline vapor recovery during motor vehicle refueling operations from stationary tanks.
- (25) "Submerged fill line" means any discharge pipe or nozzle which meets either of the following conditions:
  - Where the tank is filled from the top, the end of (upper cut of the bevel on) the discharge pipe or nozzle must be totally submerged when the liquid level is six inches from the bottom of the tank, or;
  - Where the tank is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is eighteen inches from the bottom of the tank.
- (26) "Submerged loading" means the filling of a tank with a submerged fill line.
- (27) "Suitable cover" means a door, hatch, cover, lid, pipe cap, pipe blind, valve, or similar device that prevents the accidental spilling or emitting of gasoline. Pressure relief valves, aspirator vents, or other devices specifically required for safety and fire protection are not included.
- (28) "Throughput" means the amount of material passing through a facility.
- (29) "Top off" means to attempt to dispense gasoline to a motor vehicle fuel tank after a vapor recovery dispensing nozzle has shut off automatically.
- (30) "Transport tank" means a container used for shipping gasoline over roadways.
- (31) "True vapor pressure" means the equilibrium partial pressure of a petroleum liquid as determined by methods described in American Petroleum Institute (API) Bulletin 2517, 1980.
- (32) "Upgraded" means the modification of a gasoline storage tank, including tank installation or replacement, or piping to add cathodic protection, tank lining or spill and overflow protection that involved removal of ground or ground cover above a portion of the product piping.
- (33) "Vapor balance system" means a system consisting of the transport tank, gasoline vapor transfer lines, storage tank, and all tank vents designed to route displaced gasoline vapors from a tank being filled with liquid gasoline.
- (34) "Vapor collection system" means a closed system to conduct vapors displaced from a tank being filled into the tank being emptied, a vapor holding tank, or a vapor control system.
- (35) "Vapor control system" means a system designed and operated to reduce or limit the emission of gasoline vapors emission into the ambient air.
- (36) "Vapor-mounted seal" means a primary seal mounted continuously around the circumference of the tank so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

## SWCAA 491

- (37) "Vapor tight" means a leak of less than one hundred percent of the lower explosive limit on a combustible gas detector measured at a distance of one inch from the source or no visible evidence of air entrainment in the sight glasses of liquid delivery hoses.
- (38) "WDOE" or "Ecology" means the Washington Department of Ecology.
- (39) "Western Washington counties" means the following counties: Clallam, Clark, Cowlitz, Grays Harbor, Island, Jefferson, King, Kitsap, Lewis, Mason, Pacific, Pierce, San Juan, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, and Whatcom.

### SWCAA 491-030 Registration

[Statutory Authority: Chapter 70.94.141 RCW, 70.94.151 RCW and 70.94.165 RCW. Original adoption WSR 93-16-011 filed 7/22/93, effective 8/22/93; WSR 96-21-102 filed 10/21/96; effective 11/21/96; WSR 00-11-149 filed 5/24/2000, effective 6/24/2000; WSR 01-05-067 filed 2/15/01, effective 3/18/01]

- (1) The owner or operator of a gasoline loading terminal, bulk gasoline plant, or gasoline dispensing facility subject to the provisions of SWCAA 491-040 (2) through (5) shall register the facility annually with SWCAA. Facilities subject to registration under this section shall be assessed fees consistent with and as required in SWCAA 400-100.
- (2) Administration of the registration program shall be consistent with the Registration Program requirements of SWCAA 400-100.
- (3) SWCAA will provide a written verification of registration to owners or operators of facilities subject to the provisions of SWCAA 491-040 (2) through (6). Such verification shall be available for inspection by SWCAA personnel during normal business hours.
- (4) The owner or operator of a gasoline loading terminal or a gasoline dispensing facility (non-major source) shall maintain total annual gasoline throughput records for the most recent three calendar years. Such records shall be available for inspection by SWCAA personnel during normal business hours.

### SWCAA 491-040 Gasoline Vapor Control Requirements

[Statutory Authority: Chapter 70.94.141 RCW and 70.94.165 RCW. Original adoption WSR 93-16-011 filed 7/22/93, effective 8/22/93; WSR 96-21-102 filed 10/21/96, effective 11/21/96; WSR 00-11-149 filed 5/24/2000, effective 6/24/2000; WSR 01-05-067 filed 2/15/01, effective 3/18/01]

- (1) **Fixed-roof gasoline storage tanks.**
  - (a) All fixed-roof gasoline storage tanks having a nominal storage capacity greater than forty thousand (40,000) 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 CFR 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 consistent with 40 CFR 60 subparts Ka and Kb.
  - (c) All openings not related to safety are to be sealed with suitable closures.

## SWCAA 491

- (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.
  - (e) All fixed roof gasoline storage tanks subject to this section shall comply no later than December 31, 1993 or at the time that the throughput is exceeded.
- (2) **Gasoline loading terminals.**
- (a) This section shall apply to all gasoline loading terminals with an average annual gasoline throughput greater than 7.2 million gallons on a calendar basis and shall comply no later than December 31, 1993 or when the throughput is exceeded.
  - (b) Facilities 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) 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 (35 mg/l) (three hundred twenty-two milligrams per gallon or 322 mg/gal) 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 and transport tanks.**
- (a) This section shall apply to all bulk gasoline plants with an average annual gasoline throughput greater than 7.2 million gallons on a calendar basis and shall comply no later than December 31, 1993, or when the throughput is exceeded, and gasoline transport tanks.
  - (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 (550) 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.

### SWCAA 491

- (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 that meet all of 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
    - (B) 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.
- (4) **Gasoline dispensing facilities (Stage I).**
- (a) This section shall apply to the delivery of gasoline to gasoline dispensing facilities with an annual gasoline throughput greater than three hundred sixty thousand gallons in Cowlitz, Lewis, Skamania and Wahkiakum Counties. For Clark County, this section applies to gasoline dispensing facilities with greater than

## SWCAA 491

200,000 gallons annual throughput on a calendar year basis. All facilities subject to this section shall comply when the throughput is exceeded.

- (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 unless the vapor balance system is attached to the transport tank and operated satisfactorily. In addition, no owner or operator of a transport tank shall load gasoline into a storage tank equipped with vapor balance fittings unless the vapor balance system is attached to the transport tank and operated satisfactorily.
  - (e) All gasoline dispensing facilities subject to this section shall be equipped with CARB or SWCAA certified Stage I vapor recovery fittings or equipment.
  - (f) Only two point Stage I fittings shall be used with vacuum assist type Stage II systems. Coaxial Stage I fittings may continue to be used for balance type Stage II systems and systems without Stage II gasoline vapor recovery controls.
  - (g) All Stage I gasoline vapor recovery equipment shall be maintained in proper working order at all times. All Stage I gasoline vapor recovery equipment shall be maintained in accordance with the CARB Executive Order(s) certifying the equipment or system. Whenever a Stage I gasoline vapor recovery system or component is determined to be defective or not operating properly, the owner or operator shall immediately take the system out of service until repairs are made. Systems shall not be returned to service until the defective system is operating properly.
  - (h) Any alteration of the equipment, parts, design, or operation of the Stage I gasoline vapor recovery system as certified by CARB is prohibited, and shall not be performed without submittal of a Notice of Construction application and prior approval from SWCAA.
  - (i) All new gasoline dispensing facilities shall have a tank tightness test performed at the time of installation to ensure proper connection and absence of leaks refer to WDOE publication 91-43 "Tank Owner/Operator's Guide to Tightness Testing"). Results of the testing shall be submitted to SWCAA within 14 calendar days of testing.
  - (j) Pressure/vacuum valves shall be installed as required by the CARB Executive Order that certified the particular Stage I or Stage II vapor recovery system or equipment. Relief set points shall be as provided in the applicable CARB Executive Order and local fire ordinances.
- (5) **Gasoline dispensing facilities (Stage II).**
- (a) This section shall apply to the refueling of motor vehicles for the general public from stationary tanks at all gasoline-dispensing facilities as follows:
    - (1) For Clark County, all facilities dispensing 600,000 gallons in a calendar year or greater;
    - (2) For Cowlitz County, all facilities dispensing 1.2 million gallons in a calendar year or greater;
    - (3) For Lewis, Skamania and Wahkiakum Counties, Stage II vapor control equipment is not required unless the facility exceeds the throughput and distance requirements below:



**SWCAA 491**

Gallons Throughput (millions)	Distance to Property Line (meters)
1.5	20
2.0	25
2.5	28
3.0	32
3.5	35
4.0	38
5.0	43
6.0	49
8.0	58
10.0	66
12.0	75
16.0	90
20.0	103
25.0	118

- (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 (3) of this subsection shall not apply.
- (b) Stage II vapor control equipment may be removed from any gasoline dispensing facility located in Lewis, Wahkiakum or Skamania County as in (a) above, or from any facility in Cowlitz County dispensing less than 1.2 million gallons annually, by submittal of a complete Notice of Construction and receipt of an Order of Approval, provided that the requirements of subsection (a) above are met.
- (c)
  - (i) Beginning on July 1, 2001, and each year thereafter, the Department of Ecology will publish the canister capture rate for use with this rule.
  - (ii) When the canister capture rate reaches 15% and there are no major exceptions, waivers, or other adjustments to the EPA onboard canister regulations or program implementation, the Department of Ecology will revise the state rules and incorporate the effect of canisters.
- (d) The owner or operator of a new or modified gasoline dispensing facility shall file a Notice of Construction as provided in SWCAA 400-110, and obtain an Order of Approval prior to commencing construction or modification.
- (e) 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 (a) of this subsection and request the Department of Ecology to evaluate it subject to the fees described in (f) of this subsection. The Department of Ecology will review and evaluate a second tier analysis described under WAC 173-460-090 within 45 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.
- (f) The fee for new source review of a gasoline dispensing facility under this section shall be the same as the fee under SWCAA 400-110 except, if a site-specific

## SWCAA 491

review is elected under (e) of this subsection, the fee shall be as provided under WAC 173-400-116 (3)(c) for a tier two analysis.

- (g) All gasoline dispensing facilities subject to this section shall be equipped with a CARB or SWCAA certified Stage II vapor recovery system.
  - (h) 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.
  - (i) 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.
  - (j) 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.
  - (k) 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 SWCAA's or Department of Ecology's toll free telephone number (800-633-0709 or 800-272-3780) for complaints regarding the operation and condition of the vapor recovery system.
  - (l) Every retailer and wholesale purchaser-consumer (gasoline dispensing facility) handling over 10,000 gallons per month shall equip each pump from which gasoline or methanol is introduced into motor vehicles with a nozzle that dispenses fuel at a flowrate not to exceed 10 gallons per minute as provided in 40 CFR 80.22 Subpart B.
  - (m) All new or upgraded facilities with Stage II gasoline vapor recovery controls shall conduct a performance test upon installation prior to placing in service. For balance type systems, the owner/operator shall conduct and pass a back pressure/blockage test. For vacuum assist systems, the owner/operator shall conduct and pass performance testing every 12 months. Results of all testing shall be submitted to SWCAA within 14 calendar days of test completion.
  - (n) Pressure/vacuum valves shall be installed as required by the CARB Executive Order that certified the particular Stage I or Stage II vapor recovery system or equipment. Relief set points shall be as provided in the applicable CARB Executive Order and local fire ordinances.
- (6) **Loading or Unloading Gasoline into Marine Tank Vessels**
- (a) Applicability. This rule applies to loading events at any location within the Vancouver ozone air quality maintenance area when gasoline is placed into a marine tank vessel cargo tank; or when any liquid is placed into a marine tank vessel cargo tank that had previously held gasoline. The owner or operator of each marine terminal and marine tank vessel is responsible for and must comply with this rule. All facilities shall be in compliance no later than June 1, 2001.
  - (b) Exemptions. The following activities are exempt from the marine vapor control emission limits of this rule:
    - (i) Marine vessel bunkering (refueling);
    - (ii) Lightering when neither vessel is berthed at a marine terminal dock,
    - (iii) Loading when both of the following conditions are met:
      - The vessel has been gas freed (regardless of the prior cargo), and
      - When loading any products other than gasoline.

## SWCAA 491

- (c) Vapor Collection System. The owner or operator of a marine terminal subject to this rule must equip each loading berth with a vapor collection system that is designed to collect all displaced VOC vapors during the loading of marine tank vessels. The owner or operator of a marine tank vessel subject to this rule must equip each marine tank vessel with a vapor collection system that is designed to collect all displaced VOC vapors during the loading of marine tank vessels. The collection system must be designed such that all displaced VOC vapors collected during any loading event are vented only to the control device.
- (d) Marine Vapor Control Emission Limits. Vapors that are displaced and collected during marine tank vessel loading events must meet one of the following:
  - (i) Vapors must be reduced from the uncontrolled condition by at least 95 percent by weight, as determined by EPA Method 25 or other methods approved in writing by SWCAA, or
  - (ii) Vapor emissions shall not exceed 5.7 grams per cubic meter (2 pounds per 1000 barrels) of liquid loaded.
- (e) Operating Practice and Maintenance.
  - (i) All hatches, pressure relief valves, connections, gauging ports and vents associated with the loading of fuel product into marine tank vessels must be maintained to be leak free and vapor tight.
  - (ii) The owner or operator of any marine tank vessel must certify to SWCAA that the vessel is leak free, vapor tight, and in good working order based on an annual inspection using EPA Method 21 or other methods approved in writing by SWCAA.
  - (iii) Gaseous leaks must be detected using EPA Method 21 or other methods approved in writing by SWCAA.
  - (iv) Loading must cease anytime gas or liquid leaks are detected. Loading may continue only after leaks are repaired or if documentation is provided to SWCAA that the repair of leaking components is technically infeasible without dry-docking the vessel or cannot otherwise be undertaken safely. Subsequent loading events involving the leaking components are prohibited until the leak is repaired. Any liquid or gaseous leak detected by SWCAA staff is a violation of this rule.
- (f) Monitoring and Record-Keeping.

Marine terminal operators must maintain operating records for at least five years of each loading event at their terminal. Marine tank vessel owners and operators are responsible for maintaining operating records for at least five years for all loading events involving each of their vessels. Records must be made available to SWCAA upon request. These records must include but are not limited to:

  - (i) The location of each loading event.
  - (ii) The date of arrival and departure of the vessel.
  - (iii) The name, registry and legal owner of each marine tank vessel participating in the loading event.
  - (iv) The type and amount of fuel product loaded into the marine tank vessel.
  - (v) The prior cargo carried by the marine tank vessel. If the marine tank vessel has been gas freed, then the prior cargo can be recorded as gas freed.
  - (vi) The description of any gaseous or liquid leak, date and time of leak detection, leak repair action taken and screening level after completion of the leak repair.

## SWCAA 491

- (g) Lightering exempted from controls by subsection 6 (b) of this rule must be curtailed from 2:00 AM until 2:00 PM when SWCAA declares a Clean Air Action (CAA) day. If SWCAA declares a second CAA day before 2:00 PM of the first curtailment period, then such uncontrolled lightering must be curtailed for an additional 24 hours until 2:00 PM on the second day. If a third CAA day in a row is declared, then uncontrolled lightering is permissible for a 12 hour period starting at 2 PM on the second CAA day and ending at 2 AM on the third CAA day. Uncontrolled lightering must be curtailed from 2 AM until 2 PM on the third CAA day. If SWCAA continues to declare CAA days consecutively after the third day, the curtailment and loading pattern used for the third CAA day will apply.
- (h) Safety/Emergency Operations. Nothing in this rule is intended to:
  - (i) Require any act or omission that would be in violation of any regulation or other requirement of the United States Coast Guard; or
  - (ii) Prevent any act that is necessary to secure the safety of a vessel or the safety of passengers or crew.

### SWCAA 491-050 Failures, Certification, Testing and Recordkeeping

[Statutory Authority: Chapter 70.94.141 RCW and 70.94.165 RCW. Original adoption WSR 93-16-011 filed 7/22/93, effective 8/22/93; WSR 96-21-102 filed 10/21/96, effective 11/21/96; WSR 00-11-149 filed 5/24/2000, effective 6/24/2000; WSR 01-05-067 filed 2/15/01, effective 3/18/01]

This section shall apply to all gasoline transport tanks equipped for gasoline vapor collection and all vapor collection systems at gasoline loading terminals, and bulk gasoline plants as described in subsections (2) and (3) of SWCAA 491-040.

- (1) Failures.

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 immediate 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. Upon completion of loading or unloading of a transport tank connected at the time of the failure, gasoline transfer operations shall be discontinued for the failed part of the system.
- (2) Certification.
  - (a) 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 or a marine vessel 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 or marine vessel. Certification is required annually as provided in SWCAA 490-202 and SWCAA 491-040(6)(e).
  - (b) The owner or operator of a transport tank shall not make any connection to the tank or marine vessel for the purpose of loading or unloading gasoline, except in the case of an emergency, unless the gasoline transport tank or marine vessel has successfully completed the annual certification testing requirements in (3) of this subsection, and such certification is confirmed either by:
    - (i) Having on file with each gasoline loading or unloading facility at which gasoline is transferred a current leak test certification for the transport tank; or

## SWCAA 491

- (ii) For transport tanks (tanker trucks), displaying a sticker near the Department of Transportation certification plate required by 49 CFR 178.340-10b which:
    - (A) Shows the date that the gasoline tank truck last passed the test required in (3) of this subsection;
    - (B) Shows the identification number of the gasoline tank truck tank; and
    - (C) Expires not more than one year from the date of the leak tight test.
  - (iii) For marine vessels, displaying a sticker/certification with the other Coast Guard required certifications (e.g. in the vessel ecology box, ship's bridge or tankerman's shack) which:
    - (A) Shows the date that the marine vessel last passed the test required in (3) of this subsection;
    - (B) Shows the identification number of the marine vessel; and
    - (C) Expires not more than one year from the date of the leak tight test.
  - (c) The owner or operator of a vapor collection system shall:
    - (i) Operate the vapor collection system and the gasoline loading equipment during all loadings and unloadings of transport tanks and marine vessels equipped for emission control such that:
      - (A) The tank pressure will not exceed a pressure of eighteen inches of water or a vacuum of six inches of water;
      - (B) 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
      - (C) 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.
      - (D) Upon disconnecting transfer fittings, liquid leaks do not exceed ten milliliters (0.34 fluid ounces) per disconnect averaged over three disconnects.
    - (ii) Repair and retest a vapor collection system that exceeds the limits of (2)(c)(i) of this subsection within fifteen days.
  - (d) SWCAA may, at any time, monitor a gasoline transport tank, marine vessel and vapor collection system during loading or unloading operations by the procedure in (3) of this subsection to confirm continuing compliance with this section.
- (3) Testing and monitoring.
- (a) The owner or operator of a gasoline transport tank, marine vessel or vapor collection system shall, at his own expense, demonstrate compliance with (1) and (2) 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 WDOE or SWCAA.
  - (b) Testing to determine compliance with this section shall use procedures approved by SWCAA. See testing requirements in SWCAA 490 for transport tanks and section 491-040(6)(e) for marine vessels.
  - (c) Monitoring to confirm continuing leak tight conditions shall use procedures approved by SWCAA.
- (4) Recordkeeping.
- (a) The owner or operator of a gasoline transport tank, marine vessel 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.

### **SWCAA 491**

- (b) The records of certification tests required by this section shall, as a minimum, contain:
  - (i) The transport tank or marine vessel identification number;
  - (ii) The transport tank or marine vessel capacity;
  - (iii) The transport tank initial test pressure and the time of the reading;
  - (iv) The transport tank final test pressure and the time of the reading;
  - (v) The transport tank initial test vacuum and the time of the reading;
  - (vi) The transport tank final test vacuum and the time of the reading;
  - (vii) At the top of each report page the company name, date, and location of the tests on that page; and
  - (viii) Name and title of the person conducting the test.
- (c) The owner or operator of a gasoline transport tank shall annually certify that the transport tank or marine vessel passed the required tests.
- (d) Copies of all records required under this section shall immediately be made available to SWCAA, upon written request, at any reasonable time.
- (5) 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.

### **SWCAA 491-060 Severability**

[Statutory Authority: Chapter 70.94.141 RCW. Original adoption WSR 96-21-102 filed 10/21/96; effective 11/21/96; WSR 01-05-067 filed 2/15/01, effective 3/18/01]

The provisions of this regulation are severable and if any provision is held invalid, the application of such provision to the other circumstances and the remainder of this regulation shall not be affected.