Texas Chapter 115 - Control of Air Pollution from Volatile Organic Compounds.

SUBCHAPTER B : GENERAL VOLATILE ORGANIC COMPOUND SOURCES

5B1 DIVISION 1 : STORAGE OF VOLATILE ORGANIC COMPOUNDS
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Outline:

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The adopted amendments and new rule implement Texas Health and Safety Code, §§382.002, 382.011, 382.012, 382.014, and 382.016.

§115.110. Definitions.

The following words and terms, when used in this division (relating to Storage of Volatile Organic Compounds), have the following meanings, unless the context clearly indicates otherwise. Additional definitions for terms used in this division are found in §§3.2, 101.1, and 115.10 of this title (relating to Definitions).

(1) **Deck cover**--A device that covers an opening in a floating roof deck. Some deck covers move horizontally relative to the deck (i.e., a sliding cover).

(2) **Flexible enclosure system**--A system that includes all of the following: a flexible device that completely encloses the slotted guidepole and eliminates the hydrocarbon vapor emission pathway from inside the tank through the guidepole slots to the outside air; a guidepole cover at the top of the guidepole; and a well cover positioned at the top of the guidepole well that seals any openings between the well cover and the guidepole (e.g. pole wiper), any openings between the well cover and any other objects that pass through the well cover, and any other openings in the top of the guidepole well.

(3) **Incompatible liquid**--A liquid that is a different chemical compound, a different chemical mixture, a different grade of liquid material, or a fuel with different regulatory specifications

provided that the chemical compound, chemical mixture, grade of liquid material, or fuel would be unusable for its intended purpose due to contamination from the previously stored liquid.

(4) **Internal sleeve emission control system**--An emissions control system that includes all of the following: an internal guidepole sleeve that eliminates the hydrocarbon vapor emission pathway from inside the tank through the guidepole slots to the outside air; a guidepole cover at the top of the guidepole; and a well cover positioned at the top of the guidepole well that seals any openings between the well cover and the guidepole (e.g. pole wiper), any openings between the well cover and any other objects that pass through the well cover, and any other openings in the top of the guidepole well.

(5) **Pipeline breakout station**--A facility along a pipeline containing storage vessels used to relieve surges or receive and store crude oil or condensate from the pipeline for reinjection into the pipeline and continued transportation by pipeline or to other facilities.

(6) **Pole float**--A float located inside a guidepole that floats on the surface of the stored liquid. The rim of the float has a wiper or seal that extends to the inner surface of the pole.

(7) **Pole sleeve**--A device that extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening. The sleeve extends into the stored liquid.

(8) **Pole wiper**--A seal that extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening.

(9) **Slotted guidepole**--A guidepole or gaugepole that has slots or holes through the wall of the pole. The slots or holes allow the stored liquid to flow into the pole at liquid levels above the lowest operating level.

(10) **Tank battery**--A collection of equipment used to separate, treat, store, and transfer crude oil, condensate, natural gas, and produced water. A tank battery typically receives crude oil, condensate, natural gas, or some combination of these extracted products from several production wells for accumulation and separation prior to transmission to a natural gas plant or petroleum refinery. A collection of storage tanks at a pipeline breakout station, petroleum refinery, or petrochemical plant is not considered to be a tank battery.

§115.112. Control Requirements.

(a) For all persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and until January 1, 2009, in the Houston/Galveston/Brazoria areas as defined in §115.10 of this title (relating to Definitions), the following requirements apply.

(1) No person shall place, store, or hold in any stationary tank, reservoir, or other container any volatile organic compound (VOC) unless such container is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere, or is equipped with at least the control device specified in Table I(a) of this paragraph for VOC other than crude oil and condensate, or Table II(a) of this paragraph for crude oil and condensate.

Figure: 30 TAC §115.112(a)(1)

Table I(a)

REQUIRED CONTROL FOR STORAGE TANKS FOR
VOC OTHER THAN CRUDE OIL AND CONDENSATE

True Vapor Pressure of Compound at Storage Conditions	Nominal Storage Capacity	Emission Control Requirements
< 1.5 psia* (10.3 kPa*)	Any	None
≥ 1.5 psia (10.3 kPa) and < 11 psia (75.8 kPa)	≤1,000 gal* (3,785 L*)	None
	> 1,000 gal (3,785 L) and ≤ 25,000 gal (94,635 L)	Submerged fill pipe or vapor recovery system
	> 25,000 gal (94,635 L) and ≤ 40,000 gal (151,416 L)	Internal or external floating roof (any type) or vapor recovery system
	> 40,000 gal (151,416 L)	Internal floating roof or External floating roof with primary seal (any type) and secondary seal or vapor recovery system
≥ 11 psia (75.8 kPa)	≤ 1,000 gal (3,785 L)	None
	> 1,000 gal (3,785 L) and ≤ 25,000 gal (94,635 L)	Submerged fill pipe or vapor recovery system
	> 25,000 gal (94,635 L)	Submerged fill pipe and vapor recovery system

*psia=pounds per square inch absolute, *kPa=kilo Pascals, *gal=gallon, *L=Liter

Table II(a)

REQUIRED CONTROL DEVICES FOR STORAGE TANKS FOR CRUDE OIL AND CONDENSATE

True Vapor Pressure of Compound at Storage Conditions	Nominal Storage Capacity	Emission Control Requirements
< 1.5 psia* (10.3 kPa*)	Any	None
≥ 1.5 psia (10.3 kPa) and < 11 psia (75.8 kPa)	≤ 1,000 gal* (3,785 L*)	None
	> 1,000 gal (3,785 L) and ≤ 40,000 gal (151,416 L)	Submerged fill pipe or vapor recovery system
	> 40,000 gal (151,416 L)	Internal floating roof or External floating roof with primary seal (any type) and secondary seal or vapor recovery system
≥ 11 psia (75.8 kPa)	≤ 1,000 gal (3,785 L)	None
	> 1,000 gal (3,785 L) and ≤ 40,000 gal (151,416 L)	Submerged fill pipe or vapor recovery system
	> 40,000 gal (151,416 L)	Submerged fill pipe and vapor recovery system

*psia=Pounds per square inch absolute, *kPa=kilo Pascals, *gal=Gallon, *L=Liter

(2) For floating roof storage tanks subject to the provisions of paragraph (1) of this subsection, the following requirements apply.

(A) All openings in an internal or external floating roof except for automatic

bleeder vents (vacuum breaker vents) and rim space vents must provide a projection below the liquid surface or be equipped with a cover, seal, or lid. Any cover, seal, or lid must be in a closed (i.e., no visible gap) position at all times except when the device is in actual use.

(B) Automatic bleeder vents (vacuum breaker vents) must be closed at all times except when the roof is being floated off or landed on the roof leg supports.

(C) Rim vents, if provided, must be set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

(D) Any roof drain that empties into the stored liquid must be equipped with a slotted membrane fabric cover that covers at least 90% of the area of the opening.

(E) There must be no visible holes, tears, or other openings in any seal or seal fabric.

(F) For external floating roof storage tanks, secondary seals must be the rim-mounted type (the seal must be continuous from the floating roof to the tank wall). The accumulated area of gaps that exceed 1/8 inch (0.32 centimeter) in width between the secondary seal and tank wall must be no greater than 1.0 square inch per foot (21 square centimeters permeter) of tank diameter.

(3) Vapor recovery systems used as a control device on any stationary tank, reservoir, or other container must maintain a minimum control efficiency of 90%.

(b) For all persons in Gregg, Nueces, and Victoria Counties, the following requirements shall apply:

(1) No person shall place, store, or hold in any stationary tank, reservoir, or other container any volatile organic compound (VOC), unless such container is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere, or is equipped with at least the control device specified in Table I(a) for VOC other than crude oil and condensate or Table II(a) for crude oil and condensate.

(2) For floating roof storage tanks subject to the provisions of paragraph (1) of this subsection, the following requirements shall apply.

(A) All openings in an internal or external floating roof, except for automatic bleeder vents (vacuum breaker vents) and rim space vents, must provide a projection below the liquid surface or be equipped with a cover, seal, or lid. Any cover, seal, or lid must be in a closed (i.e., no visible gap) position at all times, except when the device is in actual use.

(B) Automatic bleeder vents (vacuum breaker vents) are to be closed at all times except when the roof is being floated off or landed on the roof leg supports.

(C) Rim vents, if provided, are to be set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

(D) Any roof drain that empties into the stored liquid shall be equipped with a slotted membrane fabric cover that covers at least 90% of the area of the opening.

(E) There shall be no visible holes, tears, or other openings in any seal or seal fabric.

(F) For external floating roof storage tanks, secondary seals shall be the rim-mounted type (the seal shall be continuous from the floating roof to the tank wall). The accumulated area of gaps that exceed 1/8 inch (0.32 centimeter) in width between the secondary seal and tank wall shall be no greater than 1.0 square inch per foot (21 square centimeters/meter) of tank diameter.

(c) For all persons in Aransas, Bexar, Calhoun, Matagorda, San Patricio, and Travis Counties, the following requirements shall apply.

(1) No person may place, store, or hold in any stationary tank, reservoir, or other container any VOC, other than crude oil or condensate, unless such container is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere, or is designed and equipped with at least the control device specified in Table I(b) for VOC other than crude oil and condensate.

Figure: 30 TAC §115.112(c)(1)

Table I(b)

REQUIRED CONTROL DEVICES FOR STORAGE TANKS FOR VOC OTHER THAN CRUDE OIL AND CONDENSATE

True Vapor Pressure of Compound at Storage Conditions	Nominal Storage Capacity	Emission Control Requirements
< 1.5 psia (10.3 kPa)	Any	None
≥ 1.5 psia (10.3 kPa) and < 11 psia (75.8 kPa)	≤ 1,000 gal (3,785 L*)	None
	> 1,000 gal (3,785 L)	None
	> 1,000 gal (3,785 L) and ≤ 25,000 gal (94,635 L)	Submerged fill pipe or vapor recovery system
	> 25,000 gal (94,635 L)	Internal or external floating roof (any type) or vapor recovery system
≥ 11 psia (75.8 kPa)	≤ 1,000 gal (3,785 L)	None
	> 1,000 gal (3,785 L) and ≤ 25,000 gal (94,635 L)	Submerged fill pipe or vapor recovery system
	> 25,000 gal (94,635 L)	Submerged fill pipe and vapor recovery system

*L=Liter

(2) For floating roof storage tanks subject to the provisions of paragraph (1) of this subsection, the following requirements shall apply.

(A) There shall be no visible holes, tears, or other openings in any seal or seal fabric.

(B) All tank gauging and sampling devices shall be vapor-tight except when gauging and sampling is taking place.

(3) No person in Matagorda or San Patricio Counties shall place, store, or hold crude oil or condensate in any stationary tank, reservoir, or other container, unless such tank, reservoir, or other container is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor or gas loss to the atmosphere or is equipped with one of the following vapor-loss control devices, properly maintained and operated:

(A) an internal floating cover or external floating roof as defined in §115.10 of this title (relating to Definitions). This control equipment shall not be permitted if the VOC has a true vapor pressure of 11.0 psia (75.8 kPa) or greater. All tank-gauging and tank-sampling devices shall be vapor-tight, except when gauging or sampling is taking place; or

(B) a vapor recovery system as defined in §115.10 of this title (relating to Definitions).

(d) For all persons in the Houston/Galveston/Brazoria area the following requirements apply beginning January 1, 2009.

(1) No person shall place, store, or hold in any stationary tank, reservoir, or other container any VOC unless such container is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere, or is equipped with at least the control device specified in either Table I(a) of subsection (a)(1) of this section for VOC other than crude oil and condensate, or Table II(a) of subsection (a)(1) of this section for crude oil and condensate.

(2) For floating roof storage tanks subject to the provisions of paragraph (1) of this subsection, the following requirements apply.

(A) All openings in an internal floating cover or external floating roof as defined in §115.10 of this title (relating to Definitions) except for automatic bleeder vents (vacuum breaker vents), and rim space vents must provide a projection below the liquid surface. All openings in an internal floating cover or external floating roof except for automatic bleeder vents (vacuum breaker vents), rim space vents, leg sleeves, and roof drains must be equipped with a deck cover. The deck cover must be equipped with a gasket in good operating condition between the cover and the deck. The deck cover must be closed (i.e. no gap of more than 1/8 inch) at all times, except when the cover must be open for access.

(B) Automatic bleeder vents (vacuum breaker vents) and rim space vents must be equipped with a gasketed lid, pallet, flapper, or other closure device and must be closed (i.e. no gap of more than 1/8 inch) at all times except when required to be open to relieve excess pressure or vacuum, in accordance with the manufacturer's design.

(C) Each opening into the internal floating cover for a fixed roof support column may be equipped with a flexible fabric sleeve seal instead of a deck cover.

(D) Any roof drain that empties into the stored liquid must be equipped with a slotted membrane fabric cover that covers at least 90% of the area of the opening or an equivalent control that must be kept in a closed (i.e., no gap of more than 1/8 inch) position at all times except when the drain is in actual use. Stub drains on internal floating roof tanks are not subject to this requirement.

(E) There must be no visible holes, tears, or other openings in any seal or seal fabric.

(F) For external floating roof storage tanks, secondary seals must be the rim-mounted type (the seal must be continuous from the floating roof to the tank wall with the exception of gaps that do not exceed the following specification). The accumulated area of gaps that exceed 1/8 inch (0.32 centimeter) in width between the secondary seal and tank wall must be no greater than 1.0 square inch per foot (21 square centimeters per meter) of tank diameter.

(G) Each opening for a slotted guidepole in an external floating roof tank must be equipped with one of the control device configurations specified in clauses (i) - (vi) of this subparagraph.

(i) A pole wiper and a pole float. The wiper or seal of the pole float must be at or above the height of the pole wiper.

(ii) A pole wiper and a pole sleeve.

(iii) An internal sleeve emission control system.

(iv) Retrofit to a solid guidepole system.

(v) A flexible enclosure system.

(vi) A cover on an external floating roof tank.

(H) The floating roof must be floating on the liquid surface at all times except when the floating roof is supported by the leg supports or other support devices (e.g., hangers from the fixed roof) during the initial fill (including refill after the tank has been degassed and cleaned in accordance with §§115.541 - 115.547 of this title (relating to Degassing or Cleaning of Stationary, Marine, and Transport Vessels) or as allowed under the following circumstances:

(i) when necessary for maintenance or inspection;

(ii) when necessary for supporting a change in service to an incompatible liquid);

(iii) when the storage tank has a capacity of less than 25,000 gallons or the vapor pressure of the material stored is less than 1.5 psia;

(iv) when the vapors are routed to a control device from the time the floating roof is landed until the floating roof is within ten percent by volume of being refloated;

(v) when all emissions from the tank, including emissions from roof landings, have been included in a floating roof storage tank emissions limit or cap approved under Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification); or

(vi) when all emissions from floating roof landings at the regulated entity as defined in §101.1 of this title (relating to Definitions) are less than 25 tons per year.

(3) Vapor recovery systems used as a control device on any stationary tank, reservoir, or other container must maintain a minimum control efficiency of 90%.

(4) Storage tanks storing condensate prior to custody transfer must route flashed gases to a vapor recovery system or control device if the liquid throughput through an individual tank or the aggregate of tanks in a tank battery exceeds 1,500 barrels (63,000 gallons) per year.

(5) Storage tanks storing crude oil or condensate prior to custody transfer or at a pipeline

breakout station must route flashed gases to a vapor recovery system or control device if the uncontrolled VOC emissions from an individual storage tank, or from the aggregate of tanks in a tank battery, have the potential to equal or exceed 25 tons per year on a rolling 12-month basis. Uncontrolled emissions must be estimated by one of the following methods; however, if emissions determined using direct measurements or other methods approved by the executive director under subparagraphs (A) or (D) of this paragraph are higher than emissions estimated using the default factors or charts in subparagraphs (B) or (C) of this paragraph, the higher values must be used:

(A) direct measurement using the measuring instruments and methods specified in §115.115 of this title (relating to Approved Test Methods);

(B) using a factor of 33.3 pounds of VOC per barrel (42 gallons) of condensate produced or 1.6 pounds of VOC per barrel (42 gallons) of oil produced;

(C) for crude oil storage only, using the chart in Exhibit 2 of the United States Environmental Protection Agency publication *Lessons Learned from Natural Gas STAR Partners: Installing Vapor Recovery Units on Crude Oil Storage Tanks*, October 2003, and assuming that the hydrocarbon vapors have a molecular weight of 34 pounds per pound mole and are 48% by weight VOC; or

(D) other test method or computer simulation approved by the executive director.

§115.113. Alternate Control Requirements.

Alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division (relating to Storage of Volatile Organic Compounds) may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

§115.114. Inspection Requirements.

(a) For all persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria areas, the following inspection requirements apply.

(1) For internal floating roof storage tanks, the internal floating roof and the primary seal or the secondary seal (if one is in service) must be visually inspected through a fixed roof inspection hatch at least once every 12 months. If the internal floating roof is not resting on the surface of the volatile organic compounds (VOC) inside the storage tank and is not resting on the leg supports; or liquid has accumulated on the internal floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage tank, within 60 days of the inspection the owner or operator shall repair the items or shall empty and degas the storage tank in accordance with §§115.541 - 115.547 of this title (relating to Degassing or Cleaning of Stationary, Marine, and Transport Vessels). If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two

extensions of up to 30 additional days each to the appropriate regional office. The owner or operator shall submit a copy to any local air pollution control program with jurisdiction. Each request for an extension must include a statement that alternate storage capacity is unavailable and a schedule that will assure that the repairs will be completed as soon as possible.

(2) For external floating roof storage tanks, the secondary seal gap must be physically measured at least once every 12 months to insure compliance with §115.112(a)(2)(F) and §115.112(d)(2)(F) of this title (relating to Control Requirements). If the secondary seal gap exceeds the limitations specified by §115.112(a)(2)(F) or §115.112(d)(2)(F) of this title, within 60 days of the inspection the owner or operator shall repair the items or shall empty and degas the storage tank in accordance with §§115.541 - 115.547 of this title. If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office. The owner or operator shall submit a copy to any local air pollution control program with jurisdiction. Each request for an extension must include a statement that alternate storage capacity is unavailable and a schedule that will assure that the repairs will be completed as soon as possible.

(3) If the tank is equipped with a mechanical shoe or liquid-mounted primary seal, compliance with §115.112(a)(2)(F) and §115.112(d)(2)(F) of this title can be determined by visual inspection.

(4) For external floating roof storage tanks, the secondary seal must be visually inspected at least once every six months to ensure compliance with §115.112(a)(2)(E) and (F) and

§115.112(d)(2)(E) and (F) of this title. If the external floating roof is not resting on the surface of the VOC inside the storage tank and is not resting on the leg supports; or liquid has accumulated on the external floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage tank, within 60 days of the inspection the owner or operator shall repair the items or shall empty and degas the storage tank in accordance with §§115.541 - 115.547 of this title. If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office. The owner or operator shall submit a copy to any local air pollution control program with jurisdiction. Each request for an extension must include a statement that alternate storage capacity is unavailable and a schedule that will assure that the repairs will be completed as soon as possible.

(b) For all persons in Gregg, Nueces, and Victoria Counties, the following inspection requirements shall apply.

(1) If during an inspection of an internal floating roof storage tank, the internal floating roof is not resting on the surface of the VOC inside the storage tank and is not resting on the leg supports; or liquid has accumulated on the internal floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage tank, within 60 days of the inspection the owner or operator shall repair the items or shall empty and degas the storage tank. If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office. The owner or operator shall submit a

copy to any local air pollution control program with jurisdiction. Each request for an extension shall include a statement that alternate storage capacity is unavailable and a schedule that will assure that the repairs will be completed as soon as possible.

(2) For external floating roof storage tanks, the secondary seal gap shall be physically measured at least once every 12 months to insure compliance with §115.112(b)(2)(F) of this title. If the secondary seal gap exceeds the limitations specified by §115.112(b)(2)(F) of this title, within 60 days of the inspection the owner or operator shall repair the items or shall empty and degas the storage tank. If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office. The owner or operator shall submit a copy to any local air pollution control program with jurisdiction. Each request for an extension shall include a statement that alternate storage capacity is unavailable and a schedule that will assure that the repairs will be completed as soon as possible.

(3) If the tank is equipped with a mechanical shoe or liquid-mounted primary seal, compliance with §115.112(b)(2)(F) of this title can be determined by visual inspection.

(4) For external floating roof storage tanks, the secondary seal shall be visually inspected at least once every 12 months to insure compliance with §115.112(b)(2)(E) - (F) of this title. If the external floating roof is not resting on the surface of the VOC inside the storage tank and is not resting on the leg supports; or liquid has accumulated on the external floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the

storage tank, within 60 days of the inspection the owner or operator shall repair the items or shall empty and degas the storage tank. If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office. The owner or operator shall submit a copy to any local air pollution control program with jurisdiction. Each request for an extension shall include a statement that alternate storage capacity is unavailable and a schedule that will assure that the repairs will be completed as soon as possible.

(c) For all persons in Aransas, Bexar, Calhoun, Matagorda, San Patricio, and Travis Counties, the following inspection requirements shall apply.

(1) If during an inspection of an internal floating roof storage tank, the internal floating roof is not resting on the surface of the VOC inside the storage tank and is not resting on the leg supports; or liquid has accumulated on the internal floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage tank, within 60 days of the inspection the owner or operator shall repair the items or shall empty and degas the storage tank. If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office. The owner or operator shall submit a copy to any local air pollution control program with jurisdiction. Each request for an extension shall include a statement that alternate storage capacity is unavailable and a schedule that will assure that the repairs will be completed as soon as possible.

(2) If during an inspection of an external floating roof storage tank, the external floating roof is not resting on the surface of the VOC inside the storage tank and is not resting on the leg supports; or liquid has accumulated on the external floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage tank, within 60 days of the inspection the owner or operator shall repair the items or shall empty and degas the storage tank. If a failure cannot be repaired within 60 days and if the storage tank cannot be emptied within 60 days, the owner or operator may submit written requests for up to two extensions of up to 30 additional days each to the appropriate regional office. The owner or operator shall submit a copy to any local air pollution control program with jurisdiction. Each request for an extension shall include a statement that alternate storage capacity is unavailable and a schedule that will assure that the repairs will be completed as soon as possible.

§115.115. Approved Test Methods.

(a) For the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria areas, compliance with §115.112(a) and (d) of this title (relating to Control Requirements) must be determined by applying the following test methods, as appropriate:

(1) Test Methods 1-4 (40 Code of Federal Regulations (CFR) Part 60, Appendix A) for determining flow rates, as necessary;

(2) Test Method 18 (40 CFR Part 60, Appendix A) for determining gaseous organic compound emissions by gas chromatography;

(3) Test Method 22 (40 CFR Part 60, Appendix A) for visual determination of fugitive emissions from material sources and smoke emissions from flares;

(4) Test Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(5) Test Methods 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis;

(6) test method described in 40 CFR §60.113a(a)(1)(ii) (effective April 8, 1987) for measurement of storage tank seal gap;

(7) determination of true vapor pressure using American Society for Testing and Materials (ASTM) Test Methods D323-89, D2879, D4953, D5190, or D5191 for the measurement of Reid vapor pressure; or

(8) minor modifications to these test methods approved by the executive director.

(b) For Gregg, Nueces, and Victoria Counties, compliance with §115.112(b) of this title shall be determined by applying the following test methods, as appropriate:

(1) Test Methods 1-4 (40 Code of Federal Regulations 60, Appendix A) for determining flow rates, as necessary;

(2) Test Method 18 (40 Code of Federal Regulations 60, Appendix A) for determining gaseous organic compound emissions by gas chromatography;

(3) Test Method 22 (40 Code of Federal Regulations 60, Appendix A) for visual determination of fugitive emissions from material sources and smoke emissions from flares;

(4) Test Method 25 (40 Code of Federal Regulations 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(5) Test Methods 25A or 25B (40 Code of Federal Regulations 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis;

(6) test method described in 40 CFR 60.113a(a)(1)(ii) (effective April 8, 1987) for measurement of storage tank seal gap;

(7) determination of true vapor pressure using ASTM Test Methods D323-89, D2879, D4953, D5190, or D5191 for the measurement of Reid vapor pressure; or

(8) minor modifications to these test methods approved by the executive director.

(c) For the Houston/Galveston/Brazoria area, compliance with §115.112(d)(5) of this title may be determined by using the following measurement instruments or applying the following test methods, as appropriate:

(1) mass flow meter, positive displacement meter, or similar device over a 24-hour period representative of normal operation for flow measurements of flash gases. For crude oil and natural gas production sites, the flow measurements must be made while the producing wells are operational; and

(2) test methods referenced in subsection (a)(2), (4), and (5) of this section or Gas Processors Association Method 2286, Tentative Method of Extended Analysis for Natural Gas and Similar Mixtures by Temperature Programmed Gas Chromatography, to measure the concentration of VOC in the flashed gases; or

(3) minor modifications to these test methods approved by the executive director.

§115.116. Monitoring and Recordkeeping Requirements.

(a) For all persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria areas, the following recordkeeping requirements apply.

(1) The owner or operator of any storage vessel with an external floating roof that is exempted from the requirement for a secondary seal as specified in §115.117(a)(1), (6), and (7) of this

title (relating to Exemptions) and is used to store volatile organic compounds (VOC) with a true vapor pressure greater than 1.0 pounds per square inch absolute (psia) (6.9 kilo Pascals (kPa)) at storage conditions shall maintain records of the type of VOC stored and the average monthly true vapor pressure of the stored liquid.

(2) The results of inspections required by §115.114(a) of this title (relating to Inspection Requirements) must be recorded. For secondary seal gaps that are required to be physically measured during inspection, these records must include a calculation of emissions for all secondary seal gaps that exceed 1/8 inch (0.32 centimeter) where the accumulated area of such gaps is greater than 1.0 square inch per foot (21 square centimeters per meter) of tank diameter. These calculated emissions inventory reportable emissions (Tr) must be reported in the annual emissions inventory submittal required by §101.10 of this title (relating to Emissions Inventory Requirements). The emissions must be calculated using the following methodology:

(A) Allowable Seal Gap (greater than 1/8 inch wide): As (square inches) = 1 square inch per tank diameter foot x tank diameter.

(B) Measured Seal Gap: Ms (square inches).

(C) Reportable Seal Gap Area: Rs = Ms - As in square inches.

(D) Reportable Seal Gap/Allowable Ratio: RRs = Rs divided by As.

(E) Tank Circumference: Tc (feet).

(F) Reportable Seal Gap Length (total linear feet of seal gap greater than 1/8 inch gap width): Rl.

(G) Reportable Seal Gap Length/Tank Circumference Ratio: RRl = Rl/Tc.

(H) Tank Emissions (with good single seal): Ts = Compilation of Air Pollutant Emission Factors (AP-42) Calculation (convert to pounds/day).

(I) Tank Emissions (with two good seals): Tss = AP-42 Calculation (convert to pounds/day). Note: Use maximum local monthly average ambient temperature as reported by the National Weather Service to calculate true vapor pressure.

(J) Emissions Inventory Reportable emissions: Tr (pounds) = (Ts - Tss) x RRs x RRl x 90 days. Note: In no case should Tr be greater than (Ts - Tss).

(3) Affected persons shall install and maintain monitors to continuously measure and record operational parameters of any of the following emission control devices installed to meet applicable control requirements. Such records must be sufficient to demonstrate proper functioning of those devices to design specifications, including:

(A) the exhaust gas temperature immediately downstream of a direct-flame incinerator;

(B) the inlet and outlet gas temperature of a chiller or catalytic incinerator; and

(C) the exhaust gas VOC concentration of any carbon adsorption system, as defined in §115.10 of this title (relating to Definitions), to determine if breakthrough has occurred.

(4) The results of any testing conducted in accordance with the provisions specified in §115.115(a) of this title (relating to Approved Test Methods) must be maintained at an affected facility.

(5) All records must be maintained for two years and be made available for review upon request by authorized representatives of the executive director, the United States Environmental Protection Agency (EPA), or local air pollution control agencies with jurisdiction.

(b) For all persons in Gregg, Nueces, and Victoria Counties, the following recordkeeping requirements shall apply.

(1) The owner or operator of any storage vessel with an external floating roof which is exempted from the requirement for a secondary seal as specified in §115.117(b)(1), (6), and (7) of this title and used to store VOC with a true vapor pressure greater than 1.0 psia (6.9 kPa) at storage conditions shall maintain records of the type of VOC stored and the average monthly true vapor pressure of the stored liquid.

(2) The results of inspections required by §115.114(b) of this title shall be recorded.

(3) In Victoria County, affected persons shall install and maintain monitors to continuously measure and record operational parameters of any of the following emission control devices installed to meet applicable control requirements. Such records must be sufficient to demonstrate proper functioning of those devices to design specifications, including:

(A) the exhaust gas temperature immediately downstream of a direct-flame incinerator;

(B) the inlet and outlet gas temperature of a chiller or catalytic incinerator; and

(C) the exhaust gas VOC concentration of any carbon adsorption system, as defined in §115.10 of this title, to determine if breakthrough has occurred.

(4) The results of any testing conducted in accordance with the provisions specified in §115.115(b) of this title shall be maintained at an affected facility.

(5) All records shall be maintained for two years and be made available for review upon request by authorized representatives of the executive director, EPA, or local air pollution control agencies.

(c) For all persons in the Houston/Galveston/Brazoria area, the following recordkeeping requirements apply in addition to those specified in subsection (a) of this section.

(1) The owner or operator of any stationary tank, reservoir, or container with a fixed roof that is not required to be equipped with a floating roof or vapor recovery system, as specified in either Table I(a) or Table II(a) of §115.112(a)(1) of this title (relating to Control Requirements), shall maintain records of the type of VOC stored, the starting and ending dates when the material is stored, and the true vapor pressure at the average monthly storage temperature of the stored liquid. This requirement does not apply to storage tanks with nominal storage capacity of 25,000 gallons or less storing volatile organic liquids other than crude oil or condensate, or to storage tanks with nominal storage capacity of 40,000 gallons or less storing crude oil or condensate.

(2) The owner or operator of any storage tank that stores crude oil or condensate prior to custody transfer or at a pipeline breakout station and is not equipped with vapor recovery shall maintain records of the estimated annual emissions from the storage tank to document that the uncontrolled emissions are less than 25 tons per year. The records must be updated annually and must be made available for review within 72 hours upon request by authorized representatives of the executive director, the EPA, or local air pollution control agencies with jurisdiction.

§115.117. Exemptions.

(a) For all persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria areas, the following exemptions apply.

(1) Except as provided in §115.116 of this title (relating to Monitoring and Recordkeeping Requirements), any volatile organic compound (VOC) with a true vapor pressure less than 1.5 pounds per square inch absolute (psia) (10.3 kilo Pascals (kPa)) at storage conditions is exempt from the requirements of this division (relating to Storage of Volatile Organic Compounds).

(2) Crude oil and condensate stored in tanks with a nominal capacity less than 210,000 gallons (794,850 liters), prior to custody transfer, is exempt from the requirements of this division. After January 1, 2009, this exemption no longer applies in the Houston/Galveston/Brazoria area.

(3) Storage containers that have a capacity of less than 25,000 gallons (94,625 liters) located at motor vehicle fuel dispensing facilities are exempt from the requirements of this division.

(4) A welded tank with a mechanical shoe primary seal that has a secondary seal from the top of the shoe seal to the tank wall (a shoe-mounted secondary seal) is exempt from the requirement for retrofitting with a rim-mounted secondary seal if the shoe-mounted secondary seal was installed or scheduled for installation before August 22, 1980.

(5) External floating roof tanks storing waxy, high pour point crude oils are exempt from any secondary seal requirements of §115.112(a) of this title (relating to Control Requirements).

(6) Any welded tank storing VOC having a true vapor pressure less than 4.0 psia (27.6 kPa) is exempt from any external floating roof secondary seal requirement if any of the following types of primary seals have been installed before August 22, 1980:

(A) a mechanical shoe seal;

(B) a liquid-mounted foam seal; or

(C) a liquid-mounted liquid filled type seal.

(7) Any welded tank storing crude oil having a true vapor pressure equal to or greater than 4.0 psia (27.6 kPa) and less than 6.0 psia (41.4 kPa) at storage conditions is exempt from any external floating roof secondary seal requirement if any of the following types of primary seals have been installed before December 10, 1982:

(A) a mechanical shoe seal;

(B) a liquid-mounted foam seal; or

(C) a liquid-mounted liquid filled type seal.

(8) Storage containers that have a capacity of no more than 1,000 gallons are exempt from the requirements of this division.

(9) Condensate storage tanks or tank batteries with a throughput exceeding 1,500 barrels (63,000 gallons) per year are exempt from the requirement in §115.112(d)(4) of this title to route flashed gases to a vapor recovery system or control device if the owner or operator demonstrates using test

methods specified in §115.115(c) of this title, that uncontrolled VOC emissions from the individual tank, or from the aggregate of storage tanks in a tank battery, are less than 25 tons per year on a rolling 12-month basis.

(b) For all persons in Gregg, Nueces, and Victoria Counties, the following exemptions apply.

(1) Except as provided in §115.116 of this title, any VOC with a true vapor pressure less than 1.5 psia (10.3 kPa) at storage conditions is exempt from the requirements of this division.

(2) Crude oil and condensate stored in tanks with a nominal capacity less than 210,000 gallons (794,850 liters), prior to custody transfer, is exempt from the requirements of this division.

(3) Storage containers which have a capacity of less than 25,000 gallons (94,625 liters) located at motor vehicle fuel dispensing facilities are exempt from the requirements of this division.

(4) A welded tank with a mechanical shoe primary seal which has a secondary seal from the top of the shoe seal to the tank wall (a shoe-mounted secondary seal) is exempt from the requirement for retrofitting with a rim-mounted secondary seal if the shoe-mounted secondary seal was installed or scheduled for installation before August 22, 1980.

(5) External floating roof tanks storing waxy, high pour point crude oils are exempt from any secondary seal requirements of §115.112(b) of this title.

(6) Any welded tank storing VOC having a true vapor pressure less than 4.0 psia (27.6 kPa) is exempt from any external secondary seal requirement if any of the following types of primary seals have been installed before August 22, 1980:

(A) a mechanical shoe seal;

(B) a liquid-mounted foam seal; or

(C) a liquid-mounted liquid filled type seal.

(7) Any welded tank storing crude oil having a true vapor pressure equal to or greater than 4.0 psia (27.6 kPa) and less than 6.0 psia (41.4 kPa) at storage conditions is exempt from any external secondary seal requirement if any of the following types of primary seals have been installed before December 10, 1982:

(A) a mechanical shoe seal;

(B) a liquid-mounted foam seal; or

(C) a liquid-mounted liquid filled type seal.

(8) Storage containers which have a capacity of no more than 1,000 gallons are exempt from the requirements of this division.

(c) For all persons in Aransas, Bexar, Calhoun, Matagorda, San Patricio, and Travis Counties, the following exemptions apply.

(1) Any VOC with a true vapor pressure less than 1.5 psia (10.3 kPa) at storage conditions is exempt from the requirements of this division.

(2) Slotted sampling and gauge pipes installed in any floating roof storage tank are exempt from the provisions of §115.112(c) of this title.

(3) Storage tanks with nominal capacities between 1,000 gallons (3,785 liters) and 25,000 gallons (94,625 liters) are exempt from the requirements of §115.112(c)(1) of this title if construction began before May 12, 1973.

(4) Storage tanks with a nominal capacity of 420,000 gallons (1,589,700 liters) or less are exempt from the requirements of §115.112(c)(3) of this title.

(5) Storage containers which have a capacity of no more than 1,000 gallons are exempt from the requirements of this division.

§115.119. Counties and Compliance Schedules.

(a) The owner or operator of each stationary tank, reservoir, or other container in which any volatile organic compound (VOC) is placed, stored, or held in Brazoria, Chambers, Collin, Dallas, Denton, El Paso, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange,

Tarrant, and Waller Counties shall continue to comply with this division (relating to Storage of Volatile Organic Compounds) as required by §115.930 of this title (relating to Compliance Dates).

(b) The owner or operator of each stationary tank, reservoir, or other container in which any VOC is placed, stored, or held in Ellis, Johnson, Kaufman, Parker, and Rockwall Counties shall comply with this division as soon as practicable, but no later than March 1, 2009.

(c) The owner or operator of each stationary tank, reservoir, or other container in which any VOC is placed, stored, or held in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties shall comply with the requirements of §§115.112(d), 115.115(c), and 115.116(c) of this title (relating to Control Requirements; Approved Test Methods; and Monitoring and Recordkeeping Requirements) as soon as practicable, but no later than January 1, 2009. If compliance with these requirements would require emptying and degassing of the stationary tank, reservoir, or container, compliance is not required until the next time the stationary tank, reservoir, or container is emptied or degassed but no later than January 1, 2017. The owner or operator of each stationary tank, reservoir, or container with a nominal capacity less than 210,000 gallons (794,850 liters) storing crude oil and condensate prior to custody transfer in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties shall comply with the requirements of this division as soon as practicable but no later than January 1, 2009, regardless if compliance with these requirements would require emptying and degassing of the stationary tank, reservoir, or container.