

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt. Issued in Austin, Texas on July 19, 1989.

TRD-8906424 Allen Ell Bell  
Executive Director  
Texas Air Control Board

Proposed date of adoption: December 15, 1989

For further information, please call: (512) 451-5711, ext. 354

## Subchapter B. General Volatile Organic Compound Sources Storage of Volatile Organic Compounds

### • 31 TAC §§115.112-115.117, 115.119

The Texas Air Control Board (TACB) proposes new §§115.112-115.117 and 115.119, concerning storage of volatile organic compounds, which combine the provisions of existing §§115.11-115.14, concerning storage of volatile organic compounds in Aransas, Bexar, Calhoun, Hardin, Matagorda, Montgomery, San Patricio, and Travis Counties; §§115.61-115.62, concerning storage of crude oil or condensate in Hardin, Matagorda, Montgomery, and San Patricio Counties; and §§115.101-115.106, concerning storage of volatile organic compounds in Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties. This new undesignated head will be included in a proposed new Subchapter B, concerning general volatile organic compound sources. While in most instances the proposal does not involve new requirements, the sections have been significantly reorganized to reduce the inconsistencies which have developed as a result of numerous independent revisions in the past. Several substantive changes, however, are also proposed in order to respond to the Environmental Protection Agency requirements of Phase I of the post-87 state implementation plan (SIP) revisions.

These changes are a part of a series of substantial proposed revisions to Chapter 115, concerning control of air pollution from volatile organic compounds. Since the proposed changes are extensive, the staff has determined that it would be administratively more efficient to propose concurrently the repeal of the existing Chapter 115 in its entirety and the addition of a new Chapter 115.

The proposed new §115.112, concerning control requirements, specifies the applicable equipment and procedural requirements. The proposed new §115.113, concerning alternate control requirements, provides for executive director approval for the use of alternate technology which will result in equivalent volatile organic compound (VOC) emission reductions. The proposed new §115.114, concerning inspection requirements, specifies applicable inspection procedures and schedules. The proposed new §115.115, concerning testing requirements, identifies federally approved test methods and procedures to be used to determine compliance with applicable controls or exemptions. The proposed new §115.116, concerning recordkeeping requirements, specifies the type of records to be kept to document satisfaction of exemption

criteria or performance of applicable control devices. The proposed new §115.117, concerning exemptions, specifies the types of facilities which are exempted from the requirements of these sections. The proposed new §115.119, concerning counties and compliance schedules, requires all affected facilities to begin compliance in accordance with all expired schedules. Furthermore, VOC storage facilities in Brazoria, El Paso, Galveston, Harris, Jefferson, and Orange Counties must comply with applicable recordkeeping requirements by December 31, 1990.

Bennie Engelke, director of management and staff services, has determined that for the first five years the proposed sections are in effect, there would be no fiscal implications for state and local governments or for small businesses. Economic costs to individuals and businesses required to implement the proposed measures are associated only with recordkeeping requirements and are estimated as follows: annual cost per facility for fiscal year 1990 will be \$0, and for fiscal years 1991-1994 will be \$5,000.

Les Montgomery, P.E., director of the Technical Support and Regulation Development Program, has determined that for each of the first five years the sections as proposed are in effect, the public benefit anticipated as a result of implementing the sections will be more effective and consistent enforcement associated with the control of VOC. In addition, these measures are necessary to address the requirements of Phase I of the post-87 SIP revisions.

Public hearings on this proposal are scheduled for the following times and places: August 15, 1989, 10 a.m., Texas Air Control Board Auditorium, 6330 Highway 290 East, Austin; August 15, 1989, 7 p.m., City of Houston Pollution Control Building Auditorium, 7411 Park Place Boulevard, Houston; August 16, 1989, 7 p.m., City Council Chambers, Second Floor, 2 Civic Center Plaza, El Paso; and August 17, 1989, 4 p.m., Arlington Public Library, 101 East Abram, Arlington.

Copies of the proposed sections are available at the central office of the TACB, 6330 Highway 290 East, Austin, Texas 78723, and at all TACB regional offices. Public comment, both oral and written, on the proposed changes is invited at the hearings. The TACB would appreciate receiving five copies of testimony prior to or at the hearings. Written testimony received by the Regulation Development Section by 4 p.m. on August 25, 1989, at the TACB central office will be included in the hearing record.

The new sections are proposed under Texas Civil Statutes, Article 4477-5, §3.09(a), which provides the TACB with the authority to make rules and regulations consistent with the general intent and purposes of the Texas Clean Air Act and to amend any rule or regulation the TACB makes.

### §115.112. Control Requirements.

(a) For all persons in the counties referenced in §115.119(a) of this title (relating to Counties and Compliance Schedules) 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.

Table I(a).

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
	≤ 1,000 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
≥ 1.5 psia (10.3 kPa) and	> 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
	> 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

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
	≤ 1,000 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
≥ 1.5 psia (10.3 kPa)  and  < 11 psia (75.8 kPa)	> 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

$\geq 11$ psia (75.8 kPa)	$\leq 1,000$ gal (3,785 L)	None
	$> 1,000$ gal (3,785 L) and $\leq 40,000$ gal (151,416 L)	Submerged fill pipe or vapor recovery system
	$> 40,000$ gal (151,416 L)	Submerged fill pipe and vapor recovery system

(A) All openings in an internal or external floating roof except for automatic bleeder 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 are to be closed at all times except when the roof is 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 emergency roof drain must be provided 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) 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 cm) in width between the secondary seal and tank wall shall be no greater than 1.0 in 2 per foot (21 cm<sup>2</sup>/meter) of tank diameter.

(b) For all persons in the counties referenced in §115.119(b) of this title (relating to Counties and Compliance Schedules) the following requirements shall apply.

(1) No person may place, store, or hold in any stationary tank, reservoir, or other container any volatile organic compound (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.

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

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
	≤ 1,000 gal (3,785 L)	None
≥ 1.5 psia (10.3 kPa) and < 11 psia (75.8 kPa)	> 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

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≥ 11 psia  
(75.8 kPa)

≤ 1,000  
(3,785 L)

None

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> 1,000  
(3,785 L)  
and

Submerged fill pipe  
or  
vapor recovery system

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≤ 25,000  
(94,635 L)

> 25,000 gal  
(94,635 L)

Submerged fill pipe  
and vapor recovery  
system

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(A) There shall be no visible holes, tears, or other openings in the 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 Hardin, Matagorda, Montgomery, or San Patricio County 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 Subchapter A of this chapter (relating to Definitions). This control equipment shall not be permitted if the volatile organic compounds have 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 Subchapter A of this chapter (relating to Definitions).

#### *§115.113. Alternate Control Requirements.*

(a) For all persons in the counties referenced in §115.119(a) of this title (relating to Counties and Compliance Schedules), alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this section may be approved by the executive director in accordance with §115.910 of this title (relating to Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent based on AP-42 emission factors (Fourth Edition, September, 1985).

(b) For all persons in the counties referenced in §115.119(b) of this title (relating to Counties and Compliance Schedules), alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this section may be approved by the executive director in accordance with §115.910 of this title (relating to Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent based on AP-42 emission factors (Fourth Edition, September, 1985).

*§115.114. Inspection Requirements.* For all persons in the counties referenced in §115.119(a) of this title (relating to Counties and Compliance Schedules), all secondary seals used to comply with §115.112(a)(1) of this title (relating to Control Requirements) shall be inspected annually by owner, operator, or authorized representative to insure compliance with §115.112(a)(2)(E)-(F) of this title (relating to Control Requirements).

(1) If the primary seal is vapor mounted, the secondary seal gap area shall be physically measured annually to insure compliance with §115.112(a)(2)(F) of this title (relating to Control Requirements).

(2) If the tank is equipped with a metallic-type shoe or liquid-mounted primary seal, compliance with §115.112(a)(2)(F) of this title (relating to Control Requirements) can be determined by visual inspection.

*§115.115. Testing Requirements.* For the counties referenced in §115.119(a) of this title (relating to Counties and Compliance Schedules) compliance with section 115.112(a) of this title (relating to Control Requirements) 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 Code of Federal Regulations 60.113(a)(ii), for measurement of storage tank seal gap;

(7) determination of true vapor pressure using ASTM Test Method D323-82 for the measurement of Reid vapor pressure, adjusted for actual storage temperature in accordance with API Publication 2517, Third Edition, 1989; or

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

*§115.116. Recordkeeping Requirements.* For all persons in the counties ref-

erenced in §115.119(a) of this title (relating to Counties and Compliance Schedules) 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(a)(5) of this title (relating to Exemptions) and used to store volatile organic compounds with a true vapor pressure greater than 1.0 psia (6.9 kPa) shall maintain records of the type of VOC stored and the average monthly true vapor pressure of the stored liquid.

(2) The results of yearly inspections required by §115.114(a) of this title (relating to Inspection Requirements) shall be recorded each year.

(3) For vapor recovery systems the following information shall be recorded:

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

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

(C) the date and reason for any maintenance and repair of the required control devices and the estimated quantity and duration of volatile organic compound emissions during such activities.

(4) The results of any testing conducted in accordance with the provisions specified in §115.115 of this title (relating to Testing Requirements) 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 Texas Air Control Board, United States Environmental Protection Agency, or local air pollution control agencies.

#### *§115.117. Exemptions.*

(a) For all persons in the counties referenced in §115.119(a) of this title (relating to Counties and Compliance Schedules) the following exemptions apply.

(1) Any volatile organic compound (VOC) with a true vapor pressure less than 1.5 psia (10.3 kPa) is exempt from the requirements of this undesignated head concerning 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 undesignated head (concerning the Storage of Volatile Organic Compounds).

(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 undesignated head (concerning Storage of Volatile Organic Compounds).

(4) A welded tank with a metallic-type 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(a) of this title (relating to Control Requirements).

(6) Any welded tank storing volatile organic compounds having a true vapor pressure less than 4 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 metallic-type 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) 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 metallic-type shoe seal;

(B) a liquid-mounted foam seal; or

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

(b) For all persons in the counties referenced in §115.119(b) of this title (relating to Counties and Compliance Schedules) the following exemptions apply.

(1) Any volatile organic compound (VOC) with a true vapor pressure less than 1.5 psia (10.3 kPa) is exempt from the requirements of this undesignated head (concerning Storage of Volatile Organic Compounds).

(2) Slotted sampling and gauge pipes installed in any floating roof storage tank are exempt from the provisions of

§115.112(b) of this title (relating to Control Requirements).

(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(b)(1) of this title (relating to Control Requirements) 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(b)(3) of this title (relating to Control Requirements).

§115.119. Counties and Compliance Schedules.

(a) All affected persons within Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties shall be in compliance with this undesignated head (concerning Storage of Volatile Organic Compounds) in accordance with the following schedules.

(1) All affected persons shall be in compliance with all compliance schedules which have expired prior to the effective date of the adoption of this section, in accordance with §115.930 of this title (relating to Compliance Dates).

(2) All persons in Brazoria, Dallas, El Paso, Galveston, Harris, Jefferson, Orange, or Tarrant Counties affected by the provisions of §115.116 of this title (relating to Recordkeeping Requirements) shall be in compliance with this section as soon as practicable but no later than December 31, 1990.

(b) All affected persons within Aransas, Bexar, Calhoun, Hardin, Matagorda, Montgomery, San Patricio, and Travis Counties shall be in compliance with this undesignated head (concerning Storage of Volatile Organic Compounds) in accordance with all compliance schedules which have expired prior to the effective date of the adoption of this section, in accordance with §115.930 of this title (relating to Compliance Dates).

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas on July 19, 1989.

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Allen Ell Ball  
Executive Director  
Texas Air Control Board

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For further information, please call: (512) 451-5711, ext. 354.

## Subchapter B. General Volatile Organic Compound Sources Vent Gas Control

• 31 TAC §§115.121-115.123, 115.125-115.127, 115.129

The Texas Air Control Board (TACB) proposes new §§115.121-115.123, 115.125-115.127, and 115.129, concerning vent gas control, which combine the provisions of existing §§115.41-115.45, concerning vent gas control in Aransas, Bexar, Calhoun, Hardin, Matagorda, Montgomery, San Patricio, and Travis Counties, and §§115.161-115.164, concerning vent gas control in Brazoria, Dallas, El Paso, Galveston, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties. This new undesignated head will be included in a proposed new Subchapter B, concerning general volatile organic compound sources. While in most instances the proposal does not involve new requirements, the sections have been significantly reorganized to reduce the inconsistencies which have developed as a result of numerous independent revisions in the past. Several substantive changes, however, are also proposed in order to respond to the Environmental Protection Agency requirements of Phase I of the post-87 state implementation plan (SIP) revisions.

These changes are a part of a series of substantial proposed revisions to Chapter 115, concerning control of air pollution from volatile organic compounds. Since the proposed changes are extensive, the staff has determined that it would be administratively more efficient to propose concurrently the repeal of the existing Chapter 115 in its entirety and the addition of a new Chapter 115.

The proposed new §115.121, concerning emission specifications, establishes emission limits for specified volatile organic compounds (VOC) from affected sources. The proposed new §115.122, concerning control requirements, specifies the applicable equipment and procedural requirements. The proposed new §115.123, concerning alternate control requirements, provides for executive director approval for the use of alternate technology which will result in equivalent VOC emission reductions. The proposed new §115.125, concerning testing requirements, identifies federally approved test methods and procedures to be used to determine compliance with applicable controls or exemptions. The proposed new §115.126, concerning recordkeeping requirements, specifies the type of records to be kept to document satisfaction of exemption criteria or performance of applicable control devices. The proposed new §115.127, concerning exemptions, specifies the types of facilities which are exempted from the requirements of these sections. The proposed new §115.129, concerning counties and compliance schedules, requires all affected facilities to be in compliance in accordance with all expired and pending schedules. Furthermore, affected sources in Brazoria, El Paso, Galveston, Harris, Jefferson, and Orange Counties must comply with applicable recordkeeping requirements by December 31, 1990.

Bonnie Engelke, Director of management and staff services, has determined that for the first five years the proposed sections are in effect,