

Loading and Unloading of Volatile Organic Compounds

• 31 TAC §§115.211-115.217, 115.219

The Texas Air Control Board (TACB) proposes new §§115.211-115.217 and 115.219, concerning Loading and Unloading of Volatile Organic Compounds, which combine the provisions of existing §§115.21-115.22, concerning Loading and Unloading Facilities in Aransas, Bexar, Calhoun, Hardin, Matagorda, Montgomery, San Patricio, and Travis Counties; §§115.111-115.113, concerning Facilities for Loading and Unloading of Volatile Organic Compounds in Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties; §§115.121-115.123, concerning Gasoline Bulk Plants in Harris County. This new undesignated head will be included in a proposed new Subchapter C, concerning volatile organic compound marketing operations. 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 §115.211, concerning emission specifications, establishes emission limits for volatile organic compounds (VOC) from affected sources. The proposed new §115.212, concerning control requirements, specifies the applicable equipment and procedural requirements. The proposed new §115.213, 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 §115.214, concerning inspection requirements, specifies applicable inspection procedures and schedules. The proposed new §115.215, concerning testing requirements, identifies federally approved test methods and procedures to be used to determine compliance with applicable controls or exemptions. The proposed new §115.216, 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 §115.217, concerning exemptions, specifies the types of facilities which are exempted from the requirements of these sections. The proposed new §115.219, concerning counties and compliance schedules, requires all affected facilities to be in compliance with all expired and pending schedules. Furthermore, VOC emitted during loading or unloading 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-year period the sections are in effect there will be no fiscal implications for state or local government as a result of enforcing or administering the sections. 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 will be \$0 in 1990; \$5,000 in fiscal years 1991-1994.

Les Montgomery, director of technical support and regulation development program, has determined that for each year of the first five years the sections are in effect the public benefit anticipated as a result of enforcing 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 provide 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.

§115.211. Emission Specifications. For persons in the counties referenced in §115.219(a) of this title (relating to Counties and Compliance Schedules) the following emission specifications shall apply:

(1) gasoline terminal as defined in §115.010 of this title (relating to Definitions) emission limitations are as follows:

(A) volatile organic compound vapors from gasoline terminals shall be reduced to a level not to exceed 0.67 pounds of volatile organic compounds from the vapor recovery system vent per 1,000 gallons (80 mg/liter) of gasoline transferred; and

(B) volatile organic compound vapors from gasoline terminals located in Dallas, Harris, and Tarrant

Counties shall be reduced to a level not to exceed 0.33 pounds of volatile organic compounds from the vapor recovery system vent per 1,000 gallons (40 mg/liter) of gasoline transferred;

(2) the maximum loss of volatile organic compounds due to product transfer at a gasoline bulk plant as defined in §115.010 of this title (relating to Definitions) located in Harris County is 1.2 pounds per 1,000 gallons (140 mg/liter) of gasoline transferred.

§115.212. Control Requirements.

(a) For persons in the counties referenced in §115.219(a) of this title (relating to Counties and Compliance Schedules) the following control requirements shall apply.

(1) No person shall permit the loading or unloading of volatile organic compounds to or from any facility other than gasoline terminals unless the vapors are processed by a vapor recovery system as defined in §115.010 of this title (relating to Definitions).

(2) When loading or unloading is effected through the hatches of a tank truck or trailer or railroad tank car with a loading arm equipped with a vapor collection adapter, the pneumatic, hydraulic, or other mechanical means shall be provided to force a vapor-tight seal between the adapter and the hatch. A means shall be provided to prevent liquid drainage from the loading device when it is removed from the hatch of any tank truck, trailer, or railroad tank car, or to accomplish complete drainage before such removal. When loading or unloading is effected through means other than hatches, all loading and vapor lines shall be:

(A) equipped with fittings which make vapor-tight connections and which close automatically when disconnected; or

(B) equipped to permit residual volatile organic compounds in the loading line to discharge into a recovery or disposal system after loading is complete. All gauging and sampling devices shall be vapor-tight except for necessary gauging and sampling.

(3) Vapor recovery systems and loading equipment at gasoline terminals must be designed and operated to meet the following conditions:

(A) gauge pressure must not exceed 18 inches of water (4.5 kPa) and vacuum must not exceed six inches of water (1.5 kPa) in the gasoline tank truck;

(B) no VOC leaks shall produce readings equal to or greater than 100% of the lower explosive limit (LEL, mea-

sured as propane) at one inch (2.5 cm) from all points on the perimeter of any potential leak source when measured with a portable combustible gas detector; and

(C) no avoidable liquid or gaseous leaks shall exist during loading and unloading operations.

(4) No person in Harris County shall permit the transfer of gasoline from a transport vessel into a gasoline bulk plant storage tank unless the following requirements are met:

(A) a vapor return line is installed from the storage tank to the transport vessel;

(B) there are no leaks in the transfer system, which includes liquid lines, vapor lines, hatch covers, and pumps, or in the transport vessel's pressure-vacuum relief valves;

(C) the only atmospheric emission during gasoline transfer is through the storage tank's pressure-vacuum relief valve;

(D) all gauging and sampling devices are vapor-tight except during necessary gauging and sampling; and

(E) the transport vessel is kept vapor-tight at all times (except when gauging) until the captured vapors are discharged properly during the transport vessel's next refill.

(5) No person in Harris County shall permit the transfer of gasoline from a gasoline bulk plant into a delivery tank-truck tank unless the following requirements are met:

(A) the tank-truck tank, if equipped for top loading, has a submerged fill pipe;

(B) there are no gasoline leaks between the storage tank connections and the delivery truck;

(C) a vapor return line is installed from the delivery truck to the storage tank;

(D) gauge pressure does not exceed 18 inches of water (4.5 kPa) and vacuum does not exceed six inches of water (1.5 kPa) in the gasoline tank-truck tank;

(E) there are no vapor leaks in the transfer system, which includes liquid lines, vapor lines, hatch covers, and pumps or in the delivery truck's pressure-vacuum relief valves;

(F) the only atmospheric emission during gasoline transfer is through the storage tank pressure-vacuum relief valves resulting from emergency situations when pressures exceed the specification in subparagraph (D) of this paragraph; and

(G) all gauging and sampling devices are vapor-tight except during gauging or sampling.

(b) For persons in the counties referenced in §115.219(b) of this title (relating to Counties and Compliance schedules) the following requirements shall apply.

(1) No person shall permit the loading or unloading to or from any loading facility of volatile organic compounds unless such facility is equipped with a vapor recovery system as defined in Subchapter A of this Chapter (relating to Definitions).

(2) When loading or unloading is effected through the hatches of a tank truck or trailer or railroad tank car with a loading arm equipped with a vapor collecting adapter, then pneumatic, hydraulic, or other mechanical means shall be provided to force a vapor-tight seal between the adapter and the hatch. A means shall be provided to prevent liquid drainage from the loading device when it is removed from the hatch of any tank truck, trailer, or railroad tank car, or accomplish complete drainage before such removal.

(3) When loading or unloading is effected through means other than hatches, all loading and vapor lines shall be equipped with fittings which make vapor-tight connections and which close automatically when disconnected or shall be equipped to permit residual volatile organic compounds in the loading line to discharge into a recovery or disposal system after loading is complete.

(4) All gauging and sampling devices shall be vapor-tight except for necessary gauging and sampling.

§115.213. Alternate Control Requirements.

(a) For all persons in the counties referenced in §115.219(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.

(b) For all persons in the counties referenced in §115.219(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.

§115.214. Inspection Requirements. For all persons in the counties referenced in §115.219(a) of this title (relating to Counties and Compliance Schedules) the following inspection requirements shall apply.

(1) Inspection for visible liquid leaks, visible fumes, or significant odors resulting from gasoline dispensing operations shall be conducted during each transfer by the owner or operator of the gasoline terminal or the owner or operator of the tank-truck.

(2) Gasoline loading or unloading through the affected transfer lines shall be discontinued immediately when a leak is observed and shall not be resumed until the observed leak is repaired.

(3) Gasoline tank-truck tanks being loaded in Dallas, El Paso, Harris, and Tarrant Counties must have been leak tested within one year, in accordance with the requirements of the undesignated head of this title (relating to Control of Volatile Organic Compound Leaks From Gasoline Tank-Trucks), as evidenced by prominently displayed certification, affixed near the DOT certification plate.

§115.215. Testing Requirements. For the counties referenced in §115.219(a) of this title (relating to Counties and Compliance Schedules) compliance with §115.212(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 25 (40 Code of Federal Regulations 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(4) 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;

(5) additional test procedures described in 40 Code of Federal Regulations 60.503 c, d, e, and f;

(6) Test Method 21 (40 Code of Federal Regulations 60, Appendix A) for determining volatile organic compound leaks;

(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.

§115.216. Recordkeeping Requirements. For the counties referenced in §115.219(a)(2)(A) of this title (relating to Counties and Compliance Schedules), affected by §115.211(a) of this title (relating to Emission Specifications), and §115.212(a) of this title (relating to Control Requirements), the owner or operator of any VOC loading or unloading facility shall maintain the following information at the facility for at least two years and shall make such information available upon request to representatives of the Texas Air Control Board, United States Environmental Protection Agency, or local air pollution control agency having jurisdiction in the area.

(1) a daily record of the total throughput of VOC loaded at the facility;

(2) for vapor recovery systems:

(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 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;

(3) for gasoline terminals:

(A) a comprehensive record of all tank-trucks loaded, including the certification number of the delivery vessel and the date of the last leak testing required by §115.214(a)(3) of this title (relating to Inspection Requirements);

(B) a daily record of the certification number of all delivery vessels loaded at the affected terminal;

(C) a daily record of the number of delivery vessels loaded at the terminal and the quantity of gasoline loaded to each delivery vessel; and

(D) a record of the results of any testing conducted at the terminal in

accordance with the provisions specified in section §115.215(a) of this title (relating to Testing Requirements);

(4) For bulk plants:

(A) a comprehensive record of all tank-trucks loaded, including the certification number of the delivery vessel and the date of the last leak testing required by §115.214(a)(3) of this title (relating to Inspection Requirements);

(B) a daily record of the certification number of all delivery vessels loaded at the affected bulk plant;

(C) a daily record of the number of delivery vessels loaded at the bulk plant and the quantity of gasoline loaded to each delivery vessel; and

(D) a record of the results of any testing conducted at the bulk plant in accordance with the provisions specified in §115.215(a) of this title (relating to Testing Requirements).

§115.217. Exemptions.

(a) For persons in the counties referenced in §115.219(a) of this title (relating to Counties and Compliance Schedules) the following exemptions apply.

(1) Any facility for loading or unloading of VOC's with a true vapor pressure less than 1.5 psia (10.3 kPa) under actual storage conditions is exempt from the requirements of this undesignated head, (concerning loading and unloading of volatile organic compounds.

(2) Any facility, excluding gasoline bulk plants, affected by paragraph (6) of this subsection having less than 20,000 gallons (75,708 liters) throughput of VOC per day (averaged over any consecutive 30-day period) is exempt from the requirements of this undesignated head, concerning to loading and unloading of volatile organic compounds.

(3) Gasoline terminals located in Harris County and having less than 500,000 gallons (1,892,706 liters) throughput per day (averaged over any consecutive 30-day period) are exempt from the requirements of §115.211(a)(1)(B) of this title (relating to Emission Specifications).

(4) Gasoline terminals located in Dallas and Tarrant Counties and having less than 100,000 gallons (378,541 liters) throughput per day (averaged over any consecutive 30-day period) are exempt from the requirements of §115.211(a)(1)(B) of this title (relating to Emission Specifications).

(5) All loading and unloading facilities for crude oil and condensate, for ships and barges, and for facilities loading

or unloading only liquefied petroleum gas (regulated by the Safety Rules of the Liquefied Petroleum Gas Division of the Texas Railroad Commission) are exempt from the requirements of §115.212(a) of this title (relating to Throughput and Control Requirements).

(6) Gasoline bulk plants which have a gasoline throughput less than 4,000 gallons (15,142 liters) per day averaged over any consecutive 30-day period are exempt from the provisions of §115.211(a)(2) of this title (relating to Emission Specifications), §115.212(a)(5) of this title (relating to Control Requirements), and 115.216(a)(4) of this title (relating to Recordkeeping Requirements).

(b) For persons in the counties referenced in §115.219(b) of this title (relating to Counties and Compliance Schedules) the following exemptions apply.

(1) Any facility for loading or unloading of VOC's with a true vapor pressure less than 1.5 psia (10.3 kPa) under actual storage conditions is exempt from the requirements of this undesignated head concerning loading and unloading of volatile organic compounds.

(2) Any loading or unloading facility having less than 20,000 gallons (75,708 liters) throughput per day of volatile organic compounds averaged over any consecutive 30-day period is exempt from the requirements of this undesignated head, concerning loading and unloading of volatile organic compounds.

(3) All loading or unloading facilities for crude oil or condensate, for ships and barges, and for facilities loading or unloading only liquefied petroleum gas (regulated by the safety rules of the Liquefied Petroleum Gas Division of the Texas Railroad Commission) are exempt from the provisions of §115.212(b) of this title (relating to Control Requirements).

§115.219. 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 loading and unloading of volatile organic compounds, in accordance with the following schedules:

(1) all compliance schedules which have expired prior to the adopted effective date of this section, in accordance with §115.930 of this title (relating to Compliance Dates);

(2) the following additional compliance schedules.

(A) All persons affected by the provisions of §115.216(a)(1) and (3) of this title (relating to Recordkeeping Re-

quirements) shall be in compliance with this section:

(i) in Dallas and Tarrant counties as soon as practicable but no later than August 31, 1990; and

(ii) in Brazoria, El Paso, Galveston, Harris, Jefferson, and Orange counties as soon as practicable but no later than December 31, 1990.

(B) All persons in Harris County affected by the provisions of §115.216(a)(1), (2) and (4) of this title (relating to Recordkeeping Requirements) shall be in compliance with this section 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 loading and unloading of volatile organic compounds, in accordance with all compliance schedules which have expired prior to the adopted effective date 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.

TRD-8906419 Allen Eli 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 C. Volatile Organic Compound Marketing Operations

Filling of Gasoline Storage Vessels (Stage 1) for Motor Vehicle Fuel Dispensing Facilities

• 31 TAC §§115.221-115.227, 115.229

The Texas Air Control Board (TACB) proposes new §§115.221-115.227 and 115.229, concerning filling of gasoline storage vessels (Stage I) for motor vehicle fuel dispensing facilities, which contain the provision of existing §§115.131-115.135, concerning filling of gasoline storage vessels (Stage I) for motor vehicle fuel dispensing facilities in Brazoria, Dallas, El Paso, Galveston, Harris, and Tarrant Counties. This new undesignated head will be included in a proposed new Subchapter C, concerning volatile organic compound marketing operations. 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 §115.221, concerning emission specifications, establishes emission limits for VOC from affected sources. The proposed new §115.222, concerning control requirements, specifies the applicable equipment and procedural requirements. The proposed new §115.223, 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 §115.224, concerning inspection requirements, specifies applicable inspection procedures and schedules. The proposed new §115.225, concerning testing requirements, identifies federally approved test methods and procedures to be used to determine compliance with applicable controls or exemptions. The proposed new §115.226, 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 §115.227, concerning exemptions, specifies the types of facilities which are exempted from the requirements of these sections. The proposed new §115.229, 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, and Harris 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 year period the proposed sections are in effect there will 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 will be -0- in 1990; \$5,000 in 1991-1994.

Les Montgomery, director of 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.

These amendments are proposed under Texas Civil Statutes, Article 4477-5, §3.09(a), which provide 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.

§115.221. Emission Specifications. No person in the counties referenced in §115.229 of this title (relating to Counties and Compliance Schedules) shall transfer, or allow the transfer of, gasoline from any delivery vessel into a stationary storage container which is located at a motor vehicle fuel dispensing facility unless the displaced vapors from the gasoline storage container are controlled by one of the following:

- (1) a vapor recovery system which reduces the emissions of volatile organic compounds to the atmosphere to not more than 0.8 pounds per 1,000 gallons (93 mg/liter) of gasoline transferred; or
- (2) a vapor balance system which is operated and maintained in accordance with the provisions of §115.222 of this title (relating to Control Requirements).

§115.222. Control Requirements. For all affected persons in the counties referenced in §115.229 of this title (relating to Counties and Compliance Schedules), a vapor balance system will be assumed to comply with the specified emission limitation of §115.221 of this title (relating to Emission Specifications) if the following conditions are met:

- (1) the container is equipped with a submerged fill pipe;
- (2) a vapor-tight return line is connected before gasoline can be transferred into the storage container;
- (3) no avoidable gasoline leaks exist anywhere in the liquid transfer or vapor balance systems;
- (4) the vapor return line's cross-sectional area is at least one-half of the product drop line's cross-sectional area;
- (5) the only atmospheric emis-