The Texas Commission on Environmental Quality (TCEQ or commission) adopts the repeal of §§115.541, 115.542, and 115.545; adopts new §§115.540 - 115.542, and 115.545; and adopts the amendments to §§115.543, 115.544, 115.546, 115.547, and 115.549.

Sections 115.540 - 115.542, 115.544 - 115.546, and 115.549 are adopted *with changes* to the proposed text as published in the August 13, 2010, issue of the *Texas Register* (35 TexReg 6976). Section 115.543 and §115.547 are adopted *without changes* and the text will not be republished.

The adopted amended, repealed, and new sections will be submitted to the United States Environmental Protection Agency (EPA) as revisions to the state implementation plan (SIP).

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

Chapter 115, Subchapter F, Division 3, regulates the degassing of storage tanks, transport vessels, and marine vessels. Compliance with the rules is currently required for affected sources in the Houston-Galveston-Brazoria ozone nonattainment area and the Beaumont-Port Arthur area. Although not currently effective, the Chapter 115 degassing rules also apply in El Paso County as contingency measures that could become effective if the commission determines the rules are necessary to comply with federal air

quality standards.

On May 21, 2010, the commission published notice in the *Texas Register* (35 TexReg 4268) requiring affected sources in Collin, Dallas, Denton, and Tarrant Counties to comply with the current Chapter 115 degassing rules no later than May 21, 2011. The rules in Chapter 115, Subchapter F, Division 3, were adopted as a contingency measure for these four counties in the Dallas-Fort Worth area on April 27, 1994, and published in the *Texas Register* on May 13, 1994 (19 TexReg 3703). The contingency rules are being implemented as a result of the Dallas-Fort Worth area failing to attain the 1997 eight-hour ozone National Ambient Air Quality Standard (NAAQS) by the June 15, 2010, attainment deadline based on monitoring data. On August 9, 2010, the EPA published a proposal to reclassify the nine-county Dallas-Fort Worth area as a serious nonattainment area under the 1997 eight-hour ozone NAAQS (75 FR 47746).

Beginning in April 2009, a series of petitions for rulemaking were submitted to the commission regarding the more stringent degassing requirements that became effective in the Houston-Galveston-Brazoria area on January 1, 2009. Although, these petitions were withdrawn before the scheduled agenda for the commission's consideration while evaluating the merit of these petitions, staff identified several portions of the degassing rules that could be clarified to facilitate compliance and enforcement. In the following months, numerous questions were also raised by affected regulated entities, consultants,

and vendors regarding compliance with the requirements in Chapter 115, Subchapter F, Division 3. The adopted rulemaking addresses the concerns raised by stakeholders by revising Chapter 115, Subchapter F, Division 3, to clarify the degassing rule requirements for sources in all affected areas, provide additional flexibility for affected owners or operators by allowing for the use of alternative control options, and facilitate rule enforcement.

General Clarification of Rule Requirements

The adopted rulemaking reformats the existing rules in Chapter 115, Subchapter F, Division 3, to simplify and clarify the requirements. Some of these formatting changes include adopting new §115.540 to specify the rule applicability and define terms commonly used in this division, repealing §115.541 and §115.542, and adopting new §115.541 and §115.542 to consolidate the emission specifications and control requirements. In addition, the adopted rules make other non-substantive revisions to update the rule language to current *Texas Register* style and format requirements. Additional details regarding the general reformatting and clarification changes are discussed in the SECTION BY SECTION DISCUSSION portion of this preamble.

Additional Control Options

One concern raised by stakeholders was that the existing rules do not adequately address the use of several types of control technologies that could achieve equivalent

volatile organic compounds (VOC) emission reductions. The existing rules require that VOC vapors be routed to a device that maintains a control efficiency of at least 90%. The adopted rules specifically provide for the use of the following equivalent control options to comply with the emission specifications in the rules.

The adopted rules allow for the use of flares that are designed and operated in accordance with 40 Code of Federal Regulations (CFR) §60.18(b) - (f) (as amended through December 22, 2008 (73 FR 78209)). In addition to complying with the operating parameters in 40 CFR §60.18, the commission is requiring that flares used during degassing operations must be lit at all times when VOC vapors are routed to the device. Although 40 CFR §60.18 requires the pilot to be lit at all times and requires monitoring of the flare pilot flame, the commission is also specifically requiring the flare flame to be lit to clarify that the intent of the rules is for both the flare flame and the pilot to be lit at all times when VOC vapors are routed to the device.

The existing rules require VOC vapors from affected tanks or vessels to be routed to a control device until the concentration is less than 34,000 parts per million by volume (ppmv), expressed as methane. However, as the VOC vapor concentration approaches 34,000 ppmv, there may not be sufficient heat content to meet the minimum net heating value requirements in 40 CFR §60.18. Therefore, it may be necessary to monitor the net heating value of the VOC vapors routed to the flare to ensure there is

sufficient energy available to support combustion. The adopted rules provide the following options for demonstrating compliance with the minimum net heating value requirements in 40 CFR §60.18 during degassing operations: continuously monitor the net heating value of the gas stream routed to the flare; assume 3.4% of the net heating value from the VOC vapors routed to the flare and continuously monitor the supplemental fuel added and use calculations to demonstrate sufficient net heating value of the VOC vapors routed to the flare; or use calculations to demonstrate sufficient net heating value of the VOC vapors routed to the flare.

The adopted rules allow for the use of recirculation systems as an option for meeting the control requirements of the rules. The adopted rules define a recirculation system as a system that is vapor-tight and composed of piping, ductwork, connections, flow-inducing devices, and a control device. The recirculation system conducts VOC vapor from a storage tank, transport vessel, or marine vessel to a control device and conducts the exhaust from the outlet of the control device back into the same storage tank, transport vessel, or marine vessel. Currently, the commission is aware of two types of recirculation systems available for degassing operations that use condensation or absorption processes to transfer VOC from the vapor space inside the tank or vessel into liquid form.

To minimize pressurization in the tank or vessel, which could cause increased emissions,

the adopted rules require that the recirculation system not cause the pressure inside the tank or vessel to exceed one inch water pressure at any time during the degassing operation. The adopted rules will also require continuous monitoring of the tank pressure or the continuous monitoring of the flow rate at the inlet and outlet of the control device. To ensure that the recirculation system is vapor-tight during operation, the commission is requiring the recirculation system to be monitored for VOC leaks using the procedure in Method 21 (40 CFR Part 60, Appendix A-7) and to begin this monitoring within one hour after beginning any degassing operation. The adopted rules also require continuous monitoring of the outlet gas temperature of a condensation system that is part of a recirculation system to ensure that the temperature is below the recirculation system manufacturer's recommended operating temperature for controlling the VOC vapors routed to the device.

The commission is adopting an option to limit the VOC concentration at the outlet of the control device to less than 500 ppmv at 0% oxygen, dry basis, expressed as methane. The commission adopts this option to limit the VOC concentration of the control device exhaust gas as an equivalent or more stringent alternative to using a control device that maintains a control efficiency of at least 90%. The commission is adopting this option to provide affected owners or operators with an alternative control option that would alleviate some of the testing and monitoring requirements for devices that can maintain a low exhaust gas concentration.

Clarification of Monitoring and Testing Requirements

One of the concerns raised by stakeholders was that the existing rules do not adequately address the monitoring and testing requirements necessary to demonstrate compliance with this division. The adopted rules specifically require monitoring and testing requirements.

The commission adopts clarifications to the procedure for taking the VOC concentration measurements required in this division. The adopted rules specify that the VOC concentration measurements required to determine if the tank or vessel can be vented to the atmosphere without control for the remainder of the degassing operation must be taken over a period of five minutes. Further, none of the measurements can exceed the thresholds established in the rules. This clarification is consistent with the concentration monitoring requirements in the Refinery Maintenance, Startup, and Shutdown (MSS) Model Permit.

The current rules for the Houston-Galveston-Brazoria area require the owner or operator to monitor the VOC concentration once every 12 hours for five readings after the tank or vessel is disconnected from the control device. This requirement was added in 2007 to address concerns that if liquid remains in the tank or vessel, then the VOC concentration could increase above the limits specified in the rules after the control

device is disconnected. Stakeholders have commented that this requirement is unnecessary and overly burdensome. In response to these concerns, the commission is adopting additional options for demonstrating that the VOC concentration inside the tanks or vessel does not increase above the concentration limit established in the control requirements. Specific details regarding these additional options are included in the SECTION BY SECTION DISCUSSION portion of this preamble. Additionally, the commission is adopting rules that expand these requirements to all areas subject to this division.

The commission is specifically adopting rules to require control efficiency demonstrations conducted in accordance with the approved test methods in §115.545 for any control device used to comply with the option to maintain a control efficiency of at least 90% when the device is being used for degassing operations. The adoption of this requirement to conduct an initial control efficiency demonstration is intended to be a clarification of the existing requirements and is not intended to impose any additional requirements on affected sources. The commission is also requiring the control device to be retested prior to use for degassing operations or within 60 days after any modification that could reasonably be expected to affect the efficiency of a control device. The commission is also requiring a periodic control efficiency demonstration to be conducted at least once every 60 months for a portable control device. These retesting provisions are necessary to demonstrate that the control device continues to

meet the 90% control efficiency requirements after modification or if substantial time has passed since the previous demonstration. Additionally, it has come to the commission's attention that many of the control devices used to control emissions during degassing operations are portable devices. It is not the commission's intent that moving a portable control device from one tank or vessel to another will trigger the 60-day retesting requirement. The commission is exempting a portable thermal oxidizer or vapor combustor from the periodic control efficiency demonstration if the combustion chamber temperature is at least 1,400 degrees Fahrenheit and the flow rate of the VOC vapors routed to the device is limited to assure at least a 0.5 second combustion chamber residence time when the device is in use.

The commission is also adopting rules to allow the use of additional test methods to demonstrate compliance with this division. The adopted rules will allow for the use of test methods not currently included in the existing rules. The adopted rules will also allow test methods currently available for use by affected sources in the Houston-Galveston-Brazoria area to be used by affected sources in all areas subject to this division.

The commission adopts clarifications for the storage temperature used for determining the true vapor pressure of volatile organic liquids stored at or above ambient temperatures. The existing rules requires the use of actual storage temperature to

determine the true vapor pressure of volatile organic liquids stored in an affected storage tank, transport vessel, or marine vessel. The commission is adopting rules to allow the actual storage temperature of an unheated tank or vessel to be determined using the maximum local monthly average ambient temperature as reported by the National Weather Service. The commission is also adopting rules to allow the actual storage temperature of a heated tank or vessel to be determined using either the measured temperature or the temperature set point of the tank or vessel.

The adopted rulemaking requires the owner or operator of a storage tank, transport vessel, or marine vessel subject to the requirements in this division to notify the appropriate regional office of upcoming degassing operations upon request by authorized representatives of the executive director. The commission adopts this requirement to facilitate enforcement of the rules.

SECTION BY SECTION DISCUSSION

In addition to the revisions to clarify the rules and provide additional flexibility, the commission adopts grammatical, stylistic, and various other non-substantive changes to update the rules in accordance with current *Texas Register* style and format requirements, improve readability, establish consistency in the rules, and conform to the standards in the *Texas Legislative Council Drafting Manual*, September 2010. Such changes include appropriate and consistent use of acronyms, punctuation, section

references, and certain terminology like *that*, *which*, *shall*, and *must*. References to the Dallas/Fort Worth area and the Houston/Galveston area have been updated to the Dallas-Fort Worth area and the Houston-Galveston-Brazoria area respectively to be consistent with current terminology for the region. These non-substantive changes are not intended to alter the existing rule requirements in any way and are not specifically discussed in this preamble.

The commission also adopts changes to the rule not included at proposal. The commission revises any proposed references to *volatile organic liquids or vapors* to *volatile organic compounds*. The commission changes the title of Chapter 115, Subchapter F, Division 3 from *Degassing and Cleaning of Storage Tanks, Transport Vessels, and Marine Vessels* to *Degassing of Storage Tanks, Transport Vessels, and Marine Vessels*. As discussed elsewhere in this preamble, this change is intended to clarify the scope of the rule. In addition, the rule has been revised from proposal to eliminate any references to cleaning operations to further clarify the rule applicability. These non-substantive changes are not intended to alter the existing rule requirements in any way and are not specifically discussed in this preamble.

Section 115.540, Applicability and Definitions

The commission adopts new §115.540 that will add applicability and definitions to clarify the Chapter 115, Subchapter F, Division 3 rules. Adopted new §115.540

establishes consistency with other rules in Chapter 115 and improves the readability of the rules by first defining the units affected by and terms used in the subsequent requirements.

The commission adopts new §115.540(a) to specify that the provisions in this division apply to degassing during, or in preparation of, cleaning of any storage tank, transport vessel, or marine vessel located in the Beaumont-Port Arthur (Hardin, Jefferson, and Orange Counties), Dallas-Fort Worth (Collin, Dallas, Denton, and Tarrant Counties only), El Paso, and Houston-Galveston-Brazoria (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties) areas. Adopted new subsection (a) clarifies that this division applies to degassing any storage tank, transport vessel, or marine vessel containing volatile organic compounds with a true vapor pressure greater than or equal to 0.5 pounds per square inch absolute (psia) under actual storage conditions unless specifically exempted in §115.547. Adopted new subsection (a) also clarifies that in this division, the operator of any storage tank, transport vessel, or marine vessel refers to the regulated entity performing or outsourcing the degassing operation. Adopted new subsection (a) indicates that this division applies to any storage tank, transport vessel, or marine vessel in the Beaumont-Port Arthur and Houston-Galveston-Brazoria areas. Adopted new subsection (a) also indicates that this division applies to any storage tank or transport vessel in the Dallas-Fort Worth and El Paso areas.

Adopted new §115.540(b) indicates that unless the context clearly indicates otherwise or unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382), in 30 TAC §§3.2, 101.1, or 115.10 the terms used in this division have the meanings commonly used in the field of air pollution control. Adopted new subsection (b) also indicates that in addition, the following meanings apply in this division unless the context clearly indicates otherwise.

Adopted new §115.540(b)(1) defines *Cleaning* as the process of washing or rinsing a storage tank, transport vessel, or marine vessel, or removing sludge or rinsing liquid from a storage tank, transport vessel, or marine vessel. As discussed in the RESPONSE TO COMMENTS section of this preamble, the word *vapor* was removed from the proposed definition of *Cleaning* to help clarify the processes intended to be subject to this rule. The commission is revising this definition to help clarify the rule applicability.

Adopted new §115.540(b)(2) defines *Degassing* as the process of removing VOC vapor from a storage tank, transport vessel, or marine vessel during, or in preparation of, cleaning. As discussed in the RESPONSE TO COMMENTS section of this preamble, the definition of *Degassing* has been revised from proposal to clarify that this term applies to activities that occur during, or in preparation of, cleaning. The commission is revising this definition to further clarify the rule applicability.

As discussed in the RESPONSE TO COMMENTS section of this preamble, the commission is adopting new §115.540(b)(3) to define a *Drain-dry floating roof tank* as a floating roof tank designed to drain its entire contents completely to a sump in a manner that leaves no free-standing liquid in the tank or the sump. The only stock liquid available for evaporation in a drain-dry floating roof tank is that which clings to the tank bottom and other wetted surfaces under the floating roof. This definition comes from American Petroleum Institute (API) Technical Report 2568, Evaporative Loss from the Cleaning of Storage Tanks (November 2007).

Adopted new §115.540(b)(4), originally proposed as §115.540(b)(3), defines *Recirculation system* as a system that is vapor-tight and composed of piping, ductwork, connections, flow inducing devices, and a control device. Adopted new paragraph (4) states that the recirculation system conducts VOC vapor from a storage tank, transport vessel, or marine vessel to a control device and conducts the exhaust from the outlet of the control device back into the same storage tank, transport vessel, or marine vessel. Adopted new paragraph (4) also indicates that the recirculation system does not include the storage tank, transport vessel, or marine vessel that is being degassed. The commission is adding this definition to fully describe the type of system being adopted as a new option to control VOC vapors during degassing operations.

Adopted new §115.540(b)(5), originally proposed as §115.540(b)(4), defines *Storage capacity* as the volume of a storage tank as determined by multiplying the internal cross-sectional area of the tank by the average internal height of the tank shell or the volume of a transport vessel or marine vessel as determined by the manufacturer's original design capacity. The definition is intended to account for sloped tank floors and sumps by relying on the average internal height of the tank shell to determine the maximum amount of liquid the tank can hold if filled to the top of the tank shell with inflow and outflow pipes closed off and any floating roof absent. The average internal height may be conservatively measured as the maximum height from the bottom of a sump to the top of the tank shell. Use of this measurement will result in an overestimate of the volume of a tank with a sloped floor. The existing rule uses several different terms, including nominal storage capacity, to denote the tanks and vessels that are subject to these requirements. The commission adopts this definition and uses the term consistently throughout this rulemaking. The adopted change is not intended to alter any existing rule requirements or to cause any additional sources to be subject to the existing rule requirements.

Adopted new §115.540(b)(6), originally proposed as §115.540(b)(5), defines *Storage tank* as a stationary vessel, reservoir, or container used to store VOC. This definition does not include components that are not directly involved in the containment of liquids or vapors, subsurface caverns or porous rock reservoirs, or process tanks or vessels.

Adopted new §115.540(b)(7), originally proposed as §115.540(b)(6), defines *Vapor-tight* as a condition that exists when no component of a system has a leak greater than 500 parts per million expressed as methane measured using Method 21 (40 CFR Part 60, Appendix A-7). The commission is adopting this definition to help clarify existing requirements that use this term. Although there are no additional monitoring requirements included in the adopted rule to demonstrate compliance with vapor-tight requirements, a notice of violation could be issued to the owner or operator of the tank or vessel if an authorized representative of the executive director, the EPA, or any local air pollution control agency with jurisdiction determined the vapor-tight condition was not maintained.

Section 115.541, Emission Specifications

The commission adopts the repeal of existing §115.541 in order to reformat and clarify the emission specifications in this division. The adopted repeal is not intended to remove any of the existing emission specifications. The existing requirements in this section are either being incorporated into the adopted new §115.541 or the adopted new control requirements in §115.542.

The commission adopts new §115.541 to include the emission specifications for the degassing of storage tanks, transport vessels, or marine vessels.

Adopted new §115.541(a) requires all VOC vapors from a storage tank, transport vessel, or marine vessel subject to this division to be routed to a control device in accordance with the control requirements in §115.542 during degassing operations. Adopted new subsection (a) incorporates the existing emission specifications in §115.541(a)(1)(A) and (2)(A), and (b)(2) and does not impose a new requirement on affected sources. In response to comments, subsection (a) has been revised from proposal to specify that this requirement does not apply if the measured VOC concentration is less than 34,000 ppmv, expressed as methane or 50% of the lower explosive limit (LEL). The adopted change is intended to clarify the rule applicability.

Adopted new §115.541(b) prohibits the intentional bypassing of a control device used to comply with the requirements in this division. Adopted new subsection (b) also requires any visible VOC leak originating from the control device, or other associated product recovery device, to be repaired as soon as practical. Adopted new subsection (b) incorporates the existing emission specifications in §115.541(a)(1)(D) and (2)(D), and (b)(4) and does not impose a new requirement on affected sources.

Adopted new §115.541(c) prohibits avoidable liquid or gaseous leaks, as detected by sight or sound, from the degassing operations. Adopted new subsection (c) incorporates the existing emission specifications in §115.541(a)(1)(C) and (2)(C), and (b)(3) and does not

impose a new requirement on affected sources.

Adopted new §115.541(d) requires a transport vessel to be kept vapor-tight at all times until the VOC vapors are routed to a control device. Adopted new subsection (d) incorporates the existing emission specifications in §115.541(a)(2)(E) and does not impose a new requirement on affected sources.

Adopted new §115.541(e) has been reformatted from proposal; however, these changes are non-substantive and only intended to improve the readability of the rule. Adopted new §115.541(e)(1) requires a marine vessel to have all cargo tank closures properly secured or maintain a negative pressure within the vessel when a closure is opened. Adopted new §115.541(e)(1) requires a marine vessel to have all pressure or vacuum relief valves operating within certified limits, as specified by classification society or flag state, until the VOC vapors are routed to a control device. Adopted new subsection (e) incorporates the existing emission specifications in §115.541(b)(5) and does not impose a new requirement on affected sources.

As discussed elsewhere in this preamble, in response to comments §115.541(f) has been revised from proposal to provide some exceptions to the requirements based on tank design and the contents of the material being stored in the tank. As proposed, subsection (f) would have required all VOC vapors from a floating roof storage tank to

be routed to a control device immediately but no later than 24 hours after the tank has been emptied to the extent practical or the drain pump loses suction. Adopted new §115.541(f)(1) requires all VOC vapors from a floating roof storage tank that is not a drain-dry floating roof storage tank to be routed to a control device as soon as practical but no later than 24 hours after the tank has been emptied to the extent practical or the drain pump loses suction for a floating roof storage tank containing VOC liquids with a true vapor pressure greater than or equal to 1.5 psia under actual storage conditions. Adopted new §115.541(f)(2) requires all VOC vapors from a floating roof storage tank that is not a drain-dry floating roof storage tank must be routed to a control device as soon as practical but no later than 72 hours after the tank has been emptied to the extent practical or the drain pump loses suction for a floating roof storage tank containing VOC liquids with a true vapor pressure less than 1.5 psia under actual storage conditions. Adopted new §115.541(f)(3), which provides an alternative to new subsection (f)(1) and (2), requires that all VOC vapors from a floating roof storage tank that is not a drain-dry floating roof storage tank must be routed to a control device as soon as practical but no later than the time limit specified in a permit issued under 30 TAC Chapter 116 up to a maximum of 72 hours after the tank has been emptied to the extent practical or the drain pump losses suction. The commission adopts these new requirements to clarify when the rules in this division begin to apply and to minimize standing idle losses from floating roof storage tanks.

Section 115.542, Control Requirements

The commission is adopting the repeal of existing §115.542 in order to reformat and clarify the emission specifications in this division. The adopted repeal is not intended to remove any of the existing emission specifications. The existing requirements in this section are being incorporated into the proposed new §115.542.

The commission adopts new §115.542 to include the control requirements for the degassing of storage tanks, transport vessels, or marine vessels.

Adopted new §115.542(a) requires a control device used to comply with the emission specifications in §115.541 to meet one of the following conditions at all times when VOC vapors are routed to the device. The commission is including several equivalent options to limit VOC emissions from degassing operations that occur during, or in preparation of, cleaning an affected storage tank, transport vessel, or marine vessel.

Adopted new §115.542(a)(1) includes the same requirement in existing §115.541(a)(1)(B) and (2)(B), and (b)(2) for a control device to maintain a control efficiency of at least 90%. Adopted new paragraph (1) also clarifies the commission's intent that any control device used to comply with this division must be operated in a manner consistent with how the device was operated during the control efficiency demonstration required in §115.544(c).

Adopted new §115.542(a)(2) requires a flare that is used to comply with the requirements in this division to be designed and operated in accordance with 40 CFR §60.18(b) - (f) (as amended through December 22, 2008 (73 FR 78209)) and to be lit at all times when VOC vapors are routed to the flare. As discussed elsewhere in this preamble, although 40 CFR §60.18 requires the pilot to be lit at all times and requires monitoring of the flare pilot flame, the commission is also specifically requiring the flare flame to be lit to clarify that the intent of the rule is for both the flare flame and the pilot to be lit at all times when VOC vapors are routed to the device. Adopted new §115.542(a)(2) was revised from proposal to specifically incorporate the version of 40 CFR §60.18(b) - (f) (as amended through December 22, 2008 (73 FR 78209)).

Adopted new §115.542(a)(3) allows a recirculation system to be used to comply with the requirements in this division provided it does not cause the pressure inside the tank or vessel to increase by more than one inch water pressure at any time during the degassing operation.

Adopted new §115.542(a)(4) allows a control device used to comply with the requirements of this division provided that the VOC concentration at the outlet of the control device is less than 500 ppmv at 0% oxygen, dry basis, expressed as methane.

Adopted new §115.542(b) requires all VOC vapors to be routed to a control device until the VOC concentration is less than 34,000 ppmv, expressed as methane or less than 50% of the LEL. In response to comments, all proposed requirements that the percent LEL be expressed as methane have been removed from the adopted rule. After one of the conditions has been satisfied, the tank or vessel may be vented to the atmosphere without control for the remainder of the degassing operation, except as specified in §115.544(b)(4). The commission is expanding the requirement in §115.544(b)(4) to all applicable areas subject to the rules. The reference to §115.544(b)(4) is necessary to clarify that the additional monitoring required by that section still applies. For sources in the Houston-Galveston-Brazoria area, adopted new subsection (b) contains the same requirements as existing §115.542(a)(6) and (b)(5) and compliance with the original requirement was required by January 1, 2009.

The commission is repealing the options in existing §115.542(a)(5) and (b)(4) for sources in the Beaumont-Port Arthur, Dallas-Fort Worth, or El Paso areas. The commission is repealing the existing option for the tank or vessel to be vented to the atmosphere without control for the remainder of the degassing operation once the true vapor pressure inside the vessel has been reduced to less than 0.5 psia since this measurement is more appropriately referenced in terms of a VOC vapor concentration rather than a liquid characteristic. The commission is also repealing the existing option for the tank or vessel to be vented to the atmosphere without control once a turnover of

at least four vapor space volumes, or four turnovers of the vapor space under a floating roof, has occurred. If the tank or vessel is drained dry and if the flow of displacement gases is measured properly, four turnovers would generally be sufficient to reduce VOC concentrations to less than 34,000 ppmv. However, if liquids remain in the bottom of the tank or vessel, as commonly occurs due to irregularities in the vessel surface, the remaining liquid would continue to be a source of VOC emissions after the four turnover criterion has been satisfied.

In addition, the commission is providing sources in the Beaumont-Port Arthur, Dallas-Fort Worth, or El Paso areas with the option for the tank or vessel to be vented to the atmosphere without control for the remainder of the degassing operation once the VOC concentration before the inlet to the control device is less than 50% of the LEL. The adopted control requirements allow the tank or vessel to be vented to the atmosphere without control once the VOC concentration reaches 34,000 ppmv, expressed as methane or 50% of the LEL. The adopted new option for the tank or vessel to be vented to the atmosphere without control once the VOC concentration is less than 50% of the LEL as stringent than the existing option for the tank or vessel to be vented to the atmosphere without control once the VOC concentration reaches 34,000 ppmv, expressed as methane. Existing §115.542(b)(4) uses 20% of the LEL as one of the options for determining when marine vessels in the Beaumont-Port Arthur area may be vented to the atmosphere without control. Because the LEL criterion is an option to

allow flexibility in measurement methods and because the existing 34,000 ppmv concentration limit is the least stringent option, the adopted option to allow 50% of the LEL instead of 20% of LEL in adopted new subsection (b) will not allow an increase in VOC emissions over those allowed under existing §115.542(b)(4).

Adopted new §115.542(c) requires degassing equipment to be designed and operated to prevent avoidable liquid or gaseous VOC leaks. Adopted new subsection (c) contains the same requirement in existing §115.542(a)(4) and (b)(3).

Adopted new §115.542(d) requires that when degassing is effected through the hatches or manways of a storage tank, all lines must be equipped with fittings that make vapor-tight connections. Adopted new subsection (d) contains portions of the requirement in existing §115.542(a)(3). Proposed new subsection (d) would have also required all lines to be closed when disconnected or equipped to discharge residual VOC in the line into a closed recovery or disposal system after degassing is complete. However, in response to comments the commission is deleting this requirement because the VOC concentration in the lines will already be less than the VOC concentration that is required to be routed to a control device and therefore will not need to be controlled to demonstrate compliance with the requirements in this division.

Adopted new §115.542(e) requires that when degassing is effected through the hatches of

a transport vessel with a loading arm equipped with a vapor collection adapter, a pneumatic, hydraulic, or other mechanical means must be provided to force a vapor-tight seal between the adapter and the hatch. Adopted new subsection (e) also requires a means to be provided to minimize liquid drainage from the degassing equipment when it is removed from the hatch or to accomplish drainage before such removal. Adopted new subsection (e) contains the same requirement in existing §115.542(a)(2).

Adopted new §115.542(f) requires that when degassing is effected through the hatches of a marine vessel with a loading arm equipped with a vapor collection adapter, then pneumatic, hydraulic, or other mechanical means must be provided to force a vapor-tight seal between the adapter and the hatch, or a negative pressure inside the cargo tank must be maintained. Adopted new subsection (f) also requires a means to be provided to minimize liquid drainage from the degassing equipment when it is removed from the hatch or to accomplish drainage before such removal. Adopted new subsection (f) contains the same requirement in existing §115.542(b)(2).

Section 115.543, Alternate Control Requirements

The commission adopts non-substantive revisions to §115.543 necessary to comply with current rule formatting standards without changes from proposal.

Section 115.544, Inspection, Monitoring, and Testing Requirements

The commission is changing the title of §115.444 from *Inspection Requirements* to *Inspection, Monitoring, and Testing Requirements* to reflect the adopted changes to the content of this section.

The commission adopts subsection (a) to specify the inspection requirements that apply during the degassing of any storage tank, transport vessel, or marine vessel subject to this division.

The commission is amending §115.544(a)(1) with non-substantive changes necessary to comply with current rule formatting standards. Amended paragraph (1) requires inspection for visible liquid leaks, visible fumes, or significant odors resulting from VOC transfer operations that are conducted during each degassing operation.

The commission is amending §115.544(a)(2) with non-substantive changes necessary to comply with current rule formatting standards. Amended paragraph (2) requires degassing through the affected transfer lines to be discontinued when a leak is observed that cannot be repaired within a reasonable length of time. The commission is removing the sentence in existing paragraph (2) that indicates that the intentional bypassing of a vapor control device during degassing is prohibited. The commission is removing this superfluous sentence because the same requirement is already more appropriately included in the emission specifications in §115.542.

Adopted §115.544(b) specifies the monitoring requirements that apply during the degassing of any storage tank, transport vessel, or marine vessel subject to this division. Adopted subsection (b) also indicates that monitoring at least once every 15 minutes is sufficient to demonstrate compliance with the continuous monitoring requirements in this subsection.

Adopted §115.544(b)(1) requires any monitoring device used to comply with the requirements in this subsection to be installed, calibrated, maintained, and operated according to the manufacturer's instructions. The commission is adopting paragraph (1) to clarify the expectations associated with monitoring equipment used to comply with the requirements in this division.

Adopted §115.544(b)(2) requires the owner or operator to monitor any operational parameters necessary to demonstrate the proper functioning of a control device used to comply with the requirements in this division at all times when VOC vapors are routed to the device. Adopted paragraph (2) contains the same monitoring requirements in existing §115.546(2) and also includes the applicable monitoring requirements associated with the adopted new control options.

Adopted §115.544(b)(2)(A) requires the owner or operator to continuously monitor the

exhaust gas VOC concentration of any carbon adsorption system that regenerates the carbon bed directly to determine breakthrough. Alternatively, adopted subparagraph (A) requires the owner or operator to periodically monitor the exhaust gas VOC determine breakthrough and switch the exhaust gas flow to fresh carbon for any carbon adsorption system that does not regenerate the carbon bed directly, as specified by 40 CFR §61.354(d) (as amended through October 17, 2000 (65 FR 62160)), except that any monitoring must be conducted at intervals no greater than 20% of the design carbon replacement interval. Adopted §115.544(b)(2)(A) was revised from proposal to specify the applicable version of 40 CFR §60.354(d). Adopted subparagraph (A) contains the requirements in existing §115.546(2)(C). In addition, adopted subparagraph (A) clarifies that the owner or operator must switch the exhaust gas flow to fresh carbon for any carbon adsorption system that does not regenerate the carbon bed directly and clarifies that any monitoring must be conducted at intervals no greater than 20% of the design carbon replacement interval. The commission is adopting these additional requirements to account for the high flow rate conditions encountered during degassing operations. In addition, adopted subparagraph (A) specifies that for the purpose of this division, breakthrough is defined as a measured VOC concentration exceeding 100 ppmv, expressed as methane above background. The adopted threshold is based on the requirements in the Refinery MSS Model Permit.

Adopted §115.544(b)(2)(B) requires the owner or operator to continuously monitor the

inlet and outlet gas temperature of a catalytic incinerator. Adopted subparagraph (B) contains the same requirements in existing §115.546(2)(B).

Adopted §115.544(b)(2)(C) requires the owner or operator to continuously monitor the outlet gas temperature of a condensation system to ensure that the temperature is below the manufacturer's recommended operating temperature for controlling the VOC vapors routed to the device. The adopted monitoring and associated recordkeeping requirement also apply if the condensation system is part of a recirculation system.

Adopted §115.544(b)(2)(D) requires the owner or operator to continuously monitor the exhaust gas temperature immediately downstream of a direct-flame incinerator. Adopted subparagraph (B) contains the same requirements in existing §115.546(2)(C).

Adopted §115.544(b)(2)(E) requires the owner or operator to comply with one of the monitoring requirements in clauses (i) - (iv) if a flare is used to comply with the requirements in this division. In response to comments, subparagraph (E) was revised to clarify that the purpose of these monitoring requirements is to demonstrate compliance with the requirements in 40 CFR §60.18. In response to comments, clauses (i) - (iii) were amended from proposal to refer the *gas stream* routed to the flare and not just the *VOC vapors* routed to the flare. Adopted clause (i) requires the owner or operator to continuously monitor the net heating value of the gas stream routed to the

flare. In response to comments, changes were made to the proposed language in clause (ii). As proposed, clause (ii) would have required the owner or operator to assume zero net heating value contribution from the VOC vapors routed to the flare. Adopted clause (ii) requires the owner or operator to continuously monitor the total volume of supplemental fuel added to the gas stream routed to the flare and continuously maintain sufficient supplemental fuel to meet the minimum net heating value requirements in 40 CFR §60.18 assuming that the net heating value of the degassed VOC vapor is equivalent to a level corresponding to 50% of the LEL. New clause (ii) also allows the owner or operator to estimate the flow rate of the VOC vapors from the tank or vessel if the flow rate is not monitored. Proposed clause (ii) would have required the owner or operator to continuously monitor the total volume of supplemental fuel added to the VOC vapors routed to the flare and assume the net heating value of the VOC vapors routed to the flare is zero. Adopted clause (iii) requires the owner or operator to use calculations to demonstrate that for the material stored in the tank or vessel the net heating value of the gas stream routed to the flare cannot drop below the minimum net heating value requirements in 40 CFR §60.18 until the concentration of VOC in the vapors being routed to the flare is less than the concentration limits in §115.542(b). In response to comments, a new clause (iv) is added to allow for the monitoring of hydrogen content instead of net heating value for non-assisted flares electing to comply with 40 CFR §60.18(c)(3)(i).

Adopted §115.544(b)(2)(F) requires the owner or operator to use one of the following methods to monitor the exhaust gas VOC concentration for any control device used to comply with the option in §115.542(a)(4) to limit exhaust concentration. Proposed subparagraph (F) would have required monitoring the exhaust gas VOC concentration at least once per hour. However, in response to comments, adopted subparagraph (F) requires the owner or operator to perform a single one-hour test to demonstrate the concentration of the VOC is below the concentration limit in §115.542(a)(4). Adopted subparagraph (F) also specifies the test must begin within one hour after the start of the degassing operation. The beginning of the degassing operation is when peak VOC concentration to the control device is expected. If the control device demonstrates that the VOC concentration is less than the limit during this initial one-hour test, then further testing during that same degassing event should not be necessary. In addition, as proposed, subparagraph (F) would have required the owner or operator of any internal combustion engine used as a control device to monitor the exhaust gas VOC concentration hourly for the entire duration of the degassing event. As discussed in the RESPONSE TO COMMENTS portion of this preamble, the commission is not adopting this requirement for engines and has instead adopted a subparagraph (I) that specifies monitoring exhaust gas oxygen monitoring as the appropriate parameter monitoring for internal combustion engines.

Adopted subparagraph (F) also specifies that the VOC concentration must be

determined using the methods listed in adopted clauses (i) and (ii). Adopted clause (i) requires the VOC concentration to be determined by using the integrated bag sampling procedure in Method 18 (40 CFR Part 60, Appendix A) §§8.2.1.1 - 8.2.1.4 and a total hydrocarbon analyzer that meets instrument and calibration specifications in Method 21. As an alternative to clause (i), adopted clause (ii) requires the VOC concentration to be determined by continuously monitoring the exhaust gas VOC concentration using Method 25A (40 CFR Part 60, Appendix A).

Adopted §115.544(b)(2)(G) requires the owner or operator to continuously monitor the combustion chamber temperature of a thermal oxidizer or vapor combustor. Adopted subparagraph (G) also requires the owner or operator to continuously monitor the gas flow rate into the thermal oxidizer or vapor combustor to determine the combustion chamber residence time if necessary to demonstrate compliance with §115.544(c)(3). In response to comments, adopted subparagraph (G) was revised from proposal to apply the requirements for thermal oxidizers to both thermal oxidizers and vapor combustors.

Adopted §115.544(b)(2)(H) requires the owner or operator to continuously monitor the pressure inside the tank or vessel or continuously monitor the gas flow rate at the inlet and outlet of the control device if a recirculation system is used to comply with this division. Adopted subparagraph (H) also requires the owner or operator to monitor for VOC leaks using the procedure in Method 21 and begin this monitoring within one hour

after beginning any degassing operation. For the purposes of this requirement, the adopted rule defines a leak as a screening concentration greater than 500 ppmv above background as methane for all components.

In response to comments, the commission is adopting §115.544(b)(2)(I) specifying that for an internal combustion engine, the owner or operator shall continuously monitor the engine exhaust gas oxygen content throughout the degassing operation as an indicator of the proper operation of the engine.

In response to comments, the commission is adopting §115.544(b)(2)(J) specifying that for a control device not listed, the owner or operator shall continuously monitor one or more operational parameters sufficient to demonstrate proper functioning of the device to design specification. The commission is adopting this provision to ensure the operational parameter monitoring of any device used to comply with the requirements in this division.

Adopted §115.544(b)(3) requires the owner or operator to monitor the VOC concentration to demonstrate compliance with the VOC concentration or percent LEL limits in §115.542(b) and determine if the storage tank, transport vessel, or marine vessel can be vented to the atmosphere without control for the remainder of the degassing operation, except as specified in paragraph (4). Adopted §115.544(b)(3)(A),

proposed as §115.544(b)(3), requires the VOC concentration to be monitored once per minute for at least five minutes, and all measurements must be less than the VOC concentration limits in §115.542(b). The commission is adopting this language to clarify the monitoring procedure that should be used to determine the VOC concentration prior to venting the tank or vessel to the atmosphere without control for the remainder of the degassing operation. The commission is adopting this procedure to increase consistency between this rule and the Refinery MSS Model Permit. In response to comments, the commission is also adopting §115.544(b)(3)(B) to allow the VOC concentration to be monitored over a five-minute period using the integrated bag sampling procedure in Method 18 (40 CFR Part 60, Appendix A) §§8.2.1.1 - 8.2.1.4 and the integrated measurement must be less than the VOC concentration limits in §115.542(b). The commission is adopting this alternative monitoring option as an equivalent procedure to the monitoring option in adopted §115.544(b)(3)(A). As adopted, §115.544(b)(3)(B) would allow the use of integrated bag sampling for determining the VOC concentration for the purposes of either the 34,000 ppmv, expressed as methane or the 50% of the LEL limit.

Adopted §115.544(b)(4) requires the owner or operator of any storage tank, transport vessel, or marine vessel to comply with one of the conditions in this paragraph after demonstrating compliance with the applicable VOC concentration or percent LEL limits in §115.542(b) or (c) in accordance with paragraph (3). The existing rule requires

affected owners or operators to monitor a tank or vessel for 48 hours after reaching the applicable VOC concentration or percent LEL limits. The commission is expanding this option to all areas affected by this rulemaking as well as providing additional options.

Adopted §115.544(b)(4)(A) allows the VOC concentration inside the tank or vessel to be monitored once every 12 hours while venting to the atmosphere without control until five consecutive measurements collected at 12-hour intervals are measured to be less than 34,000 ppmv or less than 50% of the LEL. The VOC concentration measurement required by paragraph (3) may be considered the first of these five consecutive measurements. Adopted clause (i) specifies that if venting to the atmosphere without control has been suspended for more than four hours, the VOC concentration inside the tank or vessel must be measured upon restart of the degassing operation. For consistency, adopted clause (i) was revised from proposal to read *venting to the atmosphere without control* instead of *uncontrolled venting to the atmosphere*. Adopted clause (ii) specifies that if any of the VOC concentration measurements equal or exceed 34,000 ppmv, expressed as methane or 50% of the LEL, the tank or vessel must be routed to the control device until the VOC concentration is below 34,000 ppmv, expressed as methane or less than 50% of the LEL as determined by subsection (b)(3). Adopted subparagraph (A) contains the existing requirements in §115.542(a)(6) and (b)(5) for the Houston-Galveston-Brazoria area and applies this same requirement to all affected areas. In response to comments, the commission is also adopting clause (iii) to

specify that if the measured VOC concentration is less than 6,800 ppmv, expressed as methane or 10% of the LEL then no further VOC concentration measurements are required. The commission is adopting this option based on the premise that once the VOC concentration inside the tank or vessel is less than 1/5 of the standard it will not be possible for the VOC concentration to rise above 34,000 ppmv, expressed as methane or 50% of the LEL.

Adopted §115.544(b)(4)(B) allows the storage tank, transport vessel, or marine vessel to be vented to the atmosphere without control for the remainder of the degassing operation with no further VOC measurements if the VOC concentration inside the tank or vessel is less than 6,800 ppmv, expressed as methane or 10% of the LEL before the owner or operator stops routing the VOC vapors to a control device in accordance with §115.541 and §115.542. Proposed subparagraph (B) would have required the VOC concentration inside the tank or vessel to be less than 1% of the LEL before the owner or operator stops routing the VOC vapors to a control device in accordance with §115.541 and §115.542. However, in response to comments, the commission is adopting a threshold of 6,800 ppmv, expressed as methane or 10% of the LEL, based on the premise that once the VOC concentration inside the tank or vessel is less than 1/5 of the standard it will not be possible for the VOC concentration to rise above 34,000 ppmv, expressed as methane or 50% of the LEL within the first 12 hours after disconnecting the control device.

The commission is not adopting the option proposed in §115.544(b)(4)(C) that would have allowed the owner or operator to use the procedure in this subparagraph to demonstrate that the VOC concentration inside the tank or vessel will not increase above the applicable concentration limit in §115.542(b) or (c) before venting the tank or vessel to the atmosphere for the remainder of the degassing operation. As discussed in the RESPONSE TO COMMENTS section of this preamble, the commission is not adopting this proposed option because this proposed procedure may not guarantee that the VOC concentration will not rise above 34,000 ppmv, expressed as methane.

In response to comments, the commission is adopting §115.544(b)(5) specifying that minor modifications to the monitoring methods may be approved by the executive director and that monitoring methods other than those specified in this subsection may be used if approved by the executive director and validated by 40 CFR Part 63, Appendix A, Method 301. The commission is adopting this provision to provide additional flexibility to affected owners or operators.

Also, in response to comments, the commission is adopting §115.544(b)(6) to clarify that the sampling location for performing the monitoring required by §115.544(b)(3) may be immediately before the control device, in the transfer line from the tank or vessel to the control device, or in the vapor space of the tank or vessel provided it is representative of

the concentration of VOC entering the control device.

The commission adopts §115.544(c) to specify the testing requirements that apply to the owner or operator of any storage tank, transport vessel, or marine vessel subject to this division if a control device is used to comply with the emission specifications in §115.541.

Adopted §115.544(c)(1) requires an initial control efficiency demonstration to be conducted in accordance with the approved test methods in §115.545 for a control device used to comply with the requirements in §115.542(a)(1). Proposed paragraph (1) would have required the device to be retested within 60 days after any modification that could reasonably be expected to affect the efficiency of a control device. However, in response to comments, adopted paragraph (1) requires the device to be retested after any modification that could reasonably be expected to decrease the efficiency of a control device within 60 days after the modification or before being used to comply with the requirements in §115.542(a)(1), whichever is longer. The commission is clarifying that the retest is only required if the modification would decrease the control efficiency of the device. The commission is also providing additional time to conduct the required retesting for control devices that are not consistently used to comply with the requirements in §115.542(a)(1).

Adopted §115.544(c)(2) requires a periodic control efficiency demonstration to be

conducted at least once every 60 months in accordance with the approved test methods in §115.545 for a portable control device used to comply with the requirements in §115.542(a)(1).

Adopted §115.544(c)(3) exempts a portable thermal oxidizer or vapor combustor used to comply with the requirements in §115.542(a)(1) from the periodic control efficiency demonstration in paragraph (2) if the combustion chamber temperature is at least 1,400 degrees Fahrenheit and the flow rate of the VOC vapors routed to the device is limited to assure at least a 0.5 second residence time all times when the device is in use. In response to comments, adopted paragraph (3) is revised from proposal to apply the requirements proposed for thermal oxidizers to both thermal oxidizers and vapor combustors.

Section 115.545, Approved Test Methods

The commission adopts the repeal of existing §115.545 in order to reformat and clarify the approved test methods in this division. The existing requirements in this section are being incorporated into adopted new §115.545.

The commission adopts new §115.545 to indicate that compliance with the requirements in this division must be determined by applying one or more of the following test methods or procedures, as appropriate. Adopted new §115.545 amends the existing

language in §115.545 to improve consistency with other rules in Chapter 115 and to more clearly indicate that the test methods listed in this section must be used to demonstrate compliance with all the requirements in this division not just the requirements in §115.541 and §115.542.

Adopted new §115.545(1) requires the use of Methods 1 - 4 (40 CFR Part 60, Appendix A) for determining flow rates. Adopted new paragraph (1) contains the same requirement in existing paragraph (1) with non-substantive changes necessary to comply with current rule formatting standards.

Adopted new §115.545(2) allows for the use Methods 3, 3A, or 3B (40 CFR Part 60, Appendix A) to determine exhaust gas oxygen concentration for making any oxygen corrections necessary for §115.541(a)(4).

Adopted new §115.545(3) allows the use of Method 18 (40 CFR Part 60, Appendix A) for determining gaseous organic compound emissions by gas chromatography. Adopted new paragraph (3) incorporates the requirement in existing paragraph (2) with non-substantive changes necessary to comply with current rule formatting standards. Adopted new subparagraph (A) requires only one bag sample to be collected for each concentration measurement if Method 18 is used to demonstrate compliance with the VOC concentration monitoring requirements in §115.542(b) and §115.544(b)(4).

Adopted new subparagraph (A) contains the same requirement in existing paragraph (11)(B) for use in the Houston-Galveston-Brazoria area. The adopted rule allows only one bag sample to be collected for each concentration measurement if Method 18 is used for demonstrating compliance with the VOC concentration monitoring requirements in all areas affected by the rule. Adopted new subparagraph (B) requires the VOC concentration to be determined by using the integrated bag sampling procedure in Method 18, §§8.2.1.1 - 8.2.1.4 if Method 18 is used to demonstrate compliance with the VOC concentration monitoring requirements in §115.544(b)(2)(F) for an internal combustion engine or any control device used to comply with the option in §115.542(a)(4) to limit exhaust concentration. Adopted new subparagraph (B) was revised from proposal to remove the reference to the hourly VOC concentration measurements since this requirement was amended in response to comments.

Adopted new §115.545(4) allows for the use Method 19 (40 CFR Part 60, Appendix A) for determining exhaust gas flow rates on combustion control devices in lieu of using Methods 1 - 4.

Adopted new §115.545(5) allows Method 21 (40 CFR Part 60, Appendix A-7) to be used for determining VOC leaks. This portion of adopted new paragraph (5) contains the same requirement in existing paragraph (6). Adopted new paragraph (5) also allows an instrument meeting the specifications and calibration requirements in Method 21 to be

used for demonstrating compliance with the VOC concentration monitoring requirements in §115.542(b) and §115.544(b)(3) and (4) with the provision that the instrument response factor criteria in §8.1 of Method 21 may be determined using the average composition of the liquid in the tank rather than for each individual liquid. This portion of adopted new paragraph (5) contains the same requirement in existing paragraph (11)(A) for use in the Houston-Galveston-Brazoria area. The commission is allowing the use of an instrument meeting the specifications and calibration requirements in Method 21 for demonstrating compliance with the VOC concentration monitoring requirements in all areas affected by the rule.

Adopted new §115.545(6) allows Method 25 (40 CFR Part 60, Appendix A) to be used for determining total gaseous nonmethane organic emissions as carbon. Adopted new paragraph (6) contains the same requirement in existing paragraph (3).

Adopted new §115.545(7) allows Methods 25A or 25B (40 CFR Part 60, Appendix A) to be used for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis. Adopted new paragraph (7) contains the same requirement in existing paragraph (4).

Adopted new §115.545(8) allows Method 27 (40 CFR Part 60, Appendix A) to be used for determining tank-truck leaks. Adopted new paragraph (8) contains the same

requirement in existing paragraph (8).

Adopted new §115.545(9) allows for the use of a portable oxygen analyzer that is calibrated, maintained, and operated according to the manufacturer's instructions to determine exhaust gas oxygen concentration for making any oxygen corrections necessary for §115.542(a)(4) in lieu of using Methods 3, 3A, or 3B.

Adopted new §115.545(10) allows additional test procedures described in 40 CFR §60.503(b) - (d) (effective February 14, 1989) to be used for determining compliance for bulk gasoline terminals. Adopted new paragraph (10) contains the same requirement in existing paragraph (5).

Adopted new §115.545(11) requires the true vapor pressure to be determined using standard reference texts or American Society for Testing and Materials Test Method D323-89, D2879, D4953, D5190, or D5191 for the measurement of Reid vapor pressure, adjusted for actual storage temperature in accordance with American Petroleum Institute Publication 2517, Third Edition, 1989. Adopted new paragraph (11) contains the same requirement in existing paragraph (7) with the following additions. In response to comments, the commission has also added the option to use standard reference texts to determine the true vapor pressure. Adopted new paragraph (11) also includes new language to clarify that for the purposes of temperature correction, the

owner or operator shall use the actual storage temperature. In response to comments, the commission is not adopting the proposed requirement that for the purposes of temperature correction, the owner or operator shall use the higher of either 95 degrees Fahrenheit or the actual storage temperature. Adopted new paragraph (11) allows the actual storage temperature of an unheated tank or vessel to be determined using the maximum local monthly average ambient temperature as reported by the National Weather Service. Adopted new paragraph (11) also allows the actual storage temperature of a heated tank or vessel to be determined using either the measured temperature or the temperature set point of the tank or vessel.

Adopted new §115.545(12) allows the test procedures in 40 CFR §63.565(c) or 40 CFR §61.304(f) to be used for determination of marine vessel vapor tightness. Adopted new paragraph (12) contains the same requirement in existing paragraph (9).

Adopted new §115.545(13) allows LEL detectors to be used for the concentration measurement required by §115.542(b) and §115.544(b)(3) and (4), if the detector is calibrated and maintained according to manufacturer's specifications. Adopted new paragraph (13) contains the same requirement in existing paragraph (11)(F) for use in the Houston-Galveston-Brazoria area and allows the use of LEL detectors for required concentration measurements in all areas affected by the rule.

Adopted new §115.545(14) allows minor modifications to the test methods in this section to be used if approved by the executive director. Adopted new paragraph (14) contains the same requirement in existing paragraph (10).

Adopted new §115.545(15) allows test methods other than those specified in this section to be used if validated by 40 CFR Part 63, Appendix A, Test Method 301 and approved by the executive director. Adopted new paragraph (15) establishes consistency in the rules by providing an affected owner or operator with the same flexibility afforded to the owner or operator of other units regulated in Chapter 115.

The commission is deleting the option in existing paragraph (11)(C) to use bag samples to measure the VOC concentration in the Houston-Galveston-Brazoria area, if the means of collecting the sample and the type of bag used are appropriate and representative of the type of space being sampled and the analytical method used to evaluate bag contents are appropriate for the concentration levels and compound types. The commission is removing this option because it does not provide enough specificity to ensure the appropriate use of this sampling method.

The commission is deleting the option in paragraph (11)(E) to use portable hydrocarbon gas analyzer using an appropriate detector that is effective in the concentration range being measured and calibrated with compounds of interest in each case if the analyzer is

calibrated and maintained according to the manufacturer's specifications. The commission is removing this option because it does not provide enough specificity to ensure the use of appropriate instruments. The commission contends that the use of an instrument meeting the specifications in Method 21 is more appropriate for demonstrating compliance with the VOC concentration monitoring requirements.

Section 115.546, Recordkeeping and Notification Requirements

The commission is changing the title of §115.546 from *Monitoring and Recordkeeping Requirements* to *Recordkeeping and Notification Requirements* to reflect the adopted changes to the content of this section to relocate the monitoring requirements to §115.544 and to require notification of degassing operations.

Adopted §115.546(a) specifies the recordkeeping requirements for this division. Adopted subsection (a) incorporates the existing requirements in §115.546 for the owner or operator of any VOC storage tank, transport vessel, or marine vessel subject to the requirements in this division to maintain records on site for at least two years and make these records available upon request to authorized representatives of the executive director, the EPA, or any local air pollution control agency with jurisdiction. In addition, the commission is changing the record retention time from two years to five years for all records created on or after March 1, 2009. The commission is increasing the record retention time from two years to five years because the commission

anticipates that most of the facilities subject to this division are already required to keep records for five years to comply with their Title V permit requirements. The new five-year record retention time only applies to those records generated after or during the time period two years before the effective date of the adopted rule.

The commission is relettering the existing requirements in §115.546(1), (1)(A) - (C) as §115.546(a)(1), (a)(1)(A) - (C), respectively, with non-substantive changes necessary to comply with current rule formatting standards.

Adopted §115.546(a)(1)(D) requires the affected owner or operator to keep records of the VOC concentration or percent LEL measurements required in §115.544(b)(3) to determine when the storage tank, transport vessel, or marine vessel can be vented to the atmosphere without control. Adopted subparagraph (D) clarifies the intent of the existing requirement in §115.546(4) to maintain results of any testing conducted in accordance with the provisions specified in §115.545 includes maintaining records to demonstrate compliance with the VOC concentration limits in §115.542.

Adopted §115.546(a)(1)(E) requires records of the VOC concentration or percent LEL measurements required in §115.544(b)(4). Adopted subparagraph (E) includes the requirements in existing §115.546(1)(D) for affected sources in the Houston-Galveston-Brazoria area and also reflects the adopted revision to include this same monitoring

requirement for all affected areas subject to this division.

Adopted §115.546(a)(2) requires the owner or operator to maintain records of any operational parameter monitoring required in §115.544(b)(2) for a control device used to comply with the requirements in this division.

Adopted §115.546(a)(2)(A) requires the owner or operator to maintain records of the VOC concentration measurements required in §115.544(b)(2)(A) for a carbon adsorption system. Adopted subparagraph (A) contains the existing requirements in §115.546(2)(C).

Adopted §115.546(a)(2)(B) requires the owner or operator to maintain records of the continuous monitoring of the inlet and outlet gas temperature of a catalytic incinerator required in §115.544(b)(2)(B). Adopted subparagraph (B) contains the same requirements in existing §115.546(2)(B).

Adopted §115.546(a)(2)(C) requires the owner or operator to maintain records of the continuous monitoring of the outlet gas temperature to ensure that the temperature is below the manufacturer's recommended operating temperature for controlling the VOC vapors that are routed to a condensation system as required in §115.544(b)(2)(C).

Adopted §115.546(a)(2)(D) requires the owner or operator to maintain records of the continuous monitoring of the exhaust gas temperature immediately downstream of a direct-flame incinerator as required in §115.544(b)(2)(D). Adopted subparagraph (D) contains the same requirements in existing §115.546(2)(A).

Adopted §115.546(a)(2)(E) requires the owner or operator to maintain records of the continuous monitoring of the net heating value of the VOC vapors routed to the flare, the supplemental fuel added to the VOC vapors routed to the flare, or the engineering calculations required in §115.544(b)(2)(E).

Adopted §115.546(a)(2)(F) requires the owner or operator to maintain records of the monitoring of the exhaust gas VOC concentration required in §115.544(b)(2)(F) for any control device used to comply with the option in §115.542(a)(4) to limit exhaust concentration. As discussed in the RESPONSE TO COMMENTS portion of this preamble, the commission is not adopting this requirement for internal combustion engines. Adopted subparagraph (F) also requires records of the monitoring method used to determine the VOC concentration.

Adopted §115.546(a)(2)(G) requires the owner or operator to maintain records of the continuous monitoring of the combustion chamber temperature of a thermal oxidizer or vapor combustor as required in §115.544(b)(2)(G). Adopted subparagraph (G) also

requires the owner or operator to maintain records of the continuous monitoring of the gas flow rate into the thermal oxidizer or vapor combustor to determine the residence time if necessary to demonstrate compliance with §115.544(c)(3). In response to comments, adopted subparagraph (G) was revised from proposal to apply the requirements proposed for thermal oxidizers to both thermal oxidizers and vapor combustors.

Adopted §115.546(a)(2)(H) requires the owner or operator to maintain records of the continuous monitoring of the pressure inside the tank or vessel or the continuous monitoring of the gas flow rate at the inlet and outlet as required in §115.544(b)(2)(H) if a recirculation system is used to comply with this division. Adopted subparagraph (H) also requires the owner or operator to maintain records of the Method 21 monitoring for VOC leaks within one hour after beginning any degassing operation, including the VOC measurements and the time the monitoring began.

In response to comments, the commission is adopting §115.546(a)(2)(I) requiring the owner or operator to maintain records of the continuous engine exhaust gas oxygen content monitoring required in §115.544(b)(2)(I) if an internal combustion engine is used to comply with this division.

In response to comments the commission is adopting §115.546(a)(2)(J) requiring the

owner or operator to maintain records of the continuous operational parameter monitoring required in §115.544(b)(2)(J) sufficient to demonstrate proper functioning of the control device not listed in this paragraph.

The commission is amending §115.546(a)(3) with non-substantive changes necessary to comply with current rule formatting standards. The adopted amendment to paragraph (3) also indicates the commission is relettering the inspection requirements in §115.544 as §115.544(a).

The commission is amending §115.546(a)(4) with non-substantive changes necessary to comply with current rule formatting standards. The adopted amendment to paragraph (4) also requires the records to contain all applicable requirements from the commission's *Sampling Procedures Manual, Chapter 14.0, Contents of Sampling Reports* (January 2003, revision one). The commission adopts this recordkeeping requirement to clarify what information the commission expects to be included in the records of any testing conducted in accordance with the approved test methods in §115.545.

Adopted §115.546(a)(5) requires the owner or operator to maintain records of the manufacturer's instructions for installation, calibration, maintenance, and operation for any monitoring device used to comply with the requirements in this division.

Adopted §115.546(b) requires that upon request by authorized representatives of the executive director, the owner or operator of a storage tank, transport vessel, or marine vessel in the Houston-Galveston-Brazoria area to notify the appropriate regional office of upcoming degassing operations. The adopted notification requirements facilitate the enforcement of the rule by allowing investigators to observe degassing operations.

Section 115.547, Exemptions

The commission adopts non-substantive changes to §115.547 necessary to comply with current rule formatting standards.

The commission is deleting existing language in paragraph (1) to clarify the rule applicability, the commission adopts that this division apply to any storage tank, transport vessel, or marine vessel storing VOC liquids with a true vapor pressure greater than or equal to 0.5 psia under actual storage conditions. The commission is removing the exemption in existing paragraph (1) because it is no longer necessary to exempt any storage tank, transport vessel, or marine vessel storing VOC liquids with a vapor space partial pressure less than 0.5 psia under actual storage conditions.

Adopted §115.547(1) contains the portions of existing paragraph (2) that relate to storage tanks. Adopted paragraph (1) specifies that any storage tank with a storage

capacity of less than one million gallons is exempt from this division. Adopted paragraph (1) also indicates that after January 1, 2009, in the Houston-Galveston-Brazoria area, the storage tanks listed in subparagraphs (A) and (B) are no longer exempt from the requirements of this division. Adopted subparagraph (A) clarifies that storage tanks in the Houston-Galveston-Brazoria area with a storage capacity greater than or equal to 250,000 gallons but less than one million gallons are no longer exempt from this division after January 1, 2009. Adopted subparagraph (B) clarifies that storage tanks in the Houston-Galveston-Brazoria area with a storage capacity greater than or equal to 75,000 gallons but less than 250,000 gallons storing materials with true vapor pressure greater than 2.6 psia are no longer exempt from this division after January 1, 2009.

Adopted §115.547(2) exempts any transport vessel in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas with a storage capacity of less than 8,000 gallons from the requirements in this division. Adopted paragraph (2) contains the portions of existing paragraph (2) that relate to transport vessels.

Adopted §115.547(3) exempts any marine vessel in the Beaumont-Port Arthur and Houston-Galveston-Brazoria areas with a storage capacity of less than 420,000 gallons from the requirements in this division. Adopted paragraph (3) contains the portions of existing paragraph (2) that relate to marine vessels. The commission is deleting the

reference to 10,000 barrels in the existing rule to be consistent with the format of the other exemptions in this section that do not include references to the equivalent value in barrels.

The commission is renumbering the requirement in existing paragraph (3) as adopted §115.547(4) with only non-substantive changes necessary to comply with current rule formatting standards.

The commission is renumbering the requirement in existing paragraph (4) as adopted §115.547(5) with non-substantive changes necessary to comply with current rule formatting standards. The commission also amends existing paragraph (4) to indicate that requirements in existing §115.541(b) and §115.542(b) are adopted as §115.541 and §115.542. In addition, adopted paragraph (5) limits this exemption to only apply for 30 calendar days after the damage to the cargo tank is sustained. The commission is adopting this new limit to minimize emissions from damaged marine vessels.

The commission is renumbering the requirement in existing paragraph (5) as adopted §115.547(6) with only non-substantive changes necessary to comply with current rule formatting standards.

Section 115.549, Compliance Schedules

The commission is changing the title of §115.449 from *Counties and Compliance Schedules* to *Compliance Schedules* to establish consistency with other Chapter 115 rules.

Adopted §115.549(a) states that affected owners or operators in Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, and Waller Counties were required to be in compliance with this division by November 15, 1996, and shall continue to comply with this division. The existing subsection (a) states that all affected persons shall continue to comply with this division as required by §115.930. Section 115.930 indicates that for all counties affected by this chapter, the final compliance dates for revisions to control requirements are given within the section relating to counties and compliance schedules in each division if the final compliance date of any provision is after the date of adoption of the current revision to this chapter; if the compliance dates are not specified for any provision, the compliance date is past and all affected persons must be and remain in compliance with the provision as of the original compliance date. Adopted subsection (a) establishes consistency with other rules in Chapter 115 and improves the readability of the rule by clearly indicting the compliance schedule in the same portion of Chapter 115.

Adopted §115.549(b) indicates that all affected owners or operators in Collin, Dallas, Denton, and Tarrant Counties shall be in compliance with this division as soon as

practicable, but no later than May 21, 2011. The adopted change reflects the rule compliance date for these counties that was recently published in the May 21, 2010, issue of the *Texas Register* (35 TexReg 4268) based on the commission's determination that this contingency rule is necessary as a result of failure to attain the NAAQS for ozone by the attainment deadline. In response to comments, the commission is also allowing the owner or operator to delay compliance with the requirements in §115.544(b)(2)(E) until March 1, 2012, if compliance with this provision requires the installation of additional monitoring equipment. The March 1, 2012, compliance date is approximately one year after the effective date of this rule revision. Until the monitoring equipment necessary to demonstrate compliance with the requirements in §115.544(b)(2)(E) is installed, the owner or operator shall demonstrate compliance by using engineering calculations or other available monitoring or testing data.

The commission adopts non-substantive changes to subsection (c) necessary to comply with current rule formatting standards.

The commission adopts non-substantive changes to subsection (d) necessary to comply with current rule formatting standards. The commission also adopts amending subsection (d) to indicate that requirements in existing §115.542(a)(6) and (b)(5), and §115.546(1)(D) are adopted as §§115.542(b), 115.544(b)(4), and 115.546(a)(1)(E), respectively. The commission revised subsection (d) from proposal to include the

accurate section references. In response to comments, the commission is also allowing the owner or operator to delay compliance with the requirements in §115.544(b)(2)(E) until March 1, 2012, if compliance with this provision requires the installation of additional monitoring equipment. The March 1, 2012, compliance date is approximately one year after the effective date of this rule revision. Until the monitoring equipment necessary to demonstrate compliance with the requirements in §115.544(b)(2)(E) is installed, the owner or operator shall demonstrate compliance by using engineering calculations or other available monitoring or testing data.

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the adopted rulemaking in light of the regulatory impact analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking does not meet the definition of a "major environmental rule" as defined in that statute. A "major environmental rule" means a rule, the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. Although the adopted repeal, new sections, and amendments to Chapter 115 are intended to protect air quality in ozone nonattainment areas, they are not expected to have any material adverse affects on the economy, a sector of the economy, productivity, competition, jobs, the environment, or

the public health and safety of the state or a sector of the state. Instead, the adopted rules are intended to clarify the requirements for degassing of stationary storage tanks, transport vessels, or marine vessels during the process of cleaning. The adopted rules address concerns identified by affected industries and other stakeholders about potentially confusing rule requirements and will facilitate compliance and enforcement of the degassing requirements. Additionally, the adopted rulemaking also does not meet any of the four applicability criteria for requiring a regulatory impact analysis for a major environmental rule, which are listed in Texas Government Code, §2001.0225(a). Texas Government Code, §2001.0225, applies only to a major environmental rule, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

The degassing requirements are designed to control sources of VOC, a precursor of ozone. The adopted rules will apply in the ozone nonattainment areas of Houston-Galveston-Brazoria and Beaumont-Port Arthur. The current degassing requirements were triggered as a contingency measure by the commission on May 21, 2010, requiring Dallas, Denton, Collin, and Tarrant Counties to become compliant with the current rules

as expeditiously as practical, but no later than one year after the date that the contingency measures were triggered. The one-year period to allow facilities to come into compliance in the rules provides a period of time for facilities to make necessary preparations to meet the monitoring and control requirements of the current rules. The adopted rulemaking is not intended to impose more stringent requirements than the existing rules. Therefore, the adopted rulemaking will be effective in Dallas, Denton, Collin, and Tarrant Counties as expeditiously as practical after the effective date of the rule, but no later than May 21, 2011. The rules may also potentially become effective in El Paso should they be triggered as contingency measures in the future. The intent of the adopted rulemaking is to clarify the rule requirements, including requirements for testing and sampling, to provide for the use of alternative control equipment, to improve consistency with the new Refinery MSS Model Permit, and implement requirements for the notification of degassing activities.

The adopted rulemaking implements requirements of 42 United States Code (USC), §7410, which requires states to adopt a SIP that provides for the implementation, maintenance, and enforcement of the NAAQS in each air quality control region of the state. While 42 USC, §7410 generally does not require specific programs, methods, or reductions in order to meet the standard, the SIP must include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as

schedules and timetables for compliance as may be necessary or appropriate to meet the applicable requirements of this chapter (42 USC, Chapter 85, Air Pollution Prevention and Control). The provisions of the Federal Clean Air Act (FCAA) recognize that states are in the best position to determine what programs and controls are necessary or appropriate in order to meet the NAAQS. This flexibility allows states, affected industry, and the public to collaborate on the best methods for attaining the NAAQS for the specific regions in the state. Even though the FCAA allows states to develop their own programs, this flexibility does not relieve a state from developing a program that meets the requirements of 42 USC, §7410. States are not free to ignore the requirements of 42 USC, §7410, and must develop programs to assure that their contributions to nonattainment areas are reduced so that these areas can be brought into attainment on schedule. The intent of the adopted rulemaking is to clarify the rule requirements, including requirements for testing and sampling, to provide for the use of alternative control equipment, to improve consistency with the new Refinery MSS Model Permit, and implement requirements for the notification of degassing activities. The adopted rulemaking will facilitate compliance and enforcement of the degassing requirements in ozone nonattainment areas. These requirements are control measures for VOC, a precursor of ozone, and are essential for attainment and maintenance of the ozone NAAQS.

The requirement to provide a fiscal analysis of proposed regulations in the Texas

Government Code was amended by Senate Bill (SB) 633 during the 75th Legislature, 1997. The intent of SB 633 was to require agencies to conduct a regulatory impact analysis of extraordinary rules. These are identified in the statutory language as major environmental rules that will have a material adverse impact and will exceed a requirement of state law, federal law, or a delegated federal program, or are adopted solely under the general powers of the agency. With the understanding that this requirement would seldom apply, the commission provided a cost estimate for SB 633 concluding that "based on an assessment of rules adopted by the agency in the past, it is not anticipated that the bill will have significant fiscal implications for the agency due to its limited application." The commission also noted that the number of rules that would require assessment under the provisions of the bill was not large. This conclusion was based, in part, on the criteria set forth in the bill that exempted proposed rules from the full analysis unless the rule was a major environmental rule that exceeds a federal law.

As previously discussed in this preamble, the FCAA does not always require specific programs, methods, or reductions in order to meet the NAAQS; thus, states must develop programs for each area contributing to nonattainment to help ensure that those areas will meet the attainment deadlines. Because of the ongoing need to address nonattainment issues and to meet the requirements of 42 USC, §7410, the commission routinely proposes and adopts SIP rules. The legislature is presumed to understand this federal scheme. If each rule proposed for inclusion in the SIP was considered to be a

major environmental rule that exceeds federal law, then every SIP rule would require the full regulatory impact analysis contemplated by SB 633. This conclusion is inconsistent with the conclusions reached by the commission in its cost estimate and by the Legislative Budget Board (LBB) in its fiscal notes. Since the legislature is presumed to understand the fiscal impacts of the bills it passes and that presumption is based on information provided by state agencies and the LBB, the commission believes that the intent of SB 633 was only to require the full regulatory impact analysis for rules that are extraordinary in nature. While the SIP rules will have a broad impact, the impact is no greater than is necessary or appropriate to meet the requirements of the FCAA. For these reasons, rules adopted for inclusion in the SIP fall under the exception in Texas Government Code, §2001.0225(a), because they are required by federal law.

The commission has consistently applied this construction to its rules since this statute was enacted in 1997. Since that time, the legislature has revised the Texas Government Code but left this provision substantially unamended. It is presumed that "when an agency interpretation is in effect at the time the legislature amends the laws without making substantial change in the statute, the legislature is deemed to have accepted the agency's interpretation." Central Power & Light Co. v. Sharp, 919 S.W.2d 485, 489 (Tex. App. Austin 1995), writ denied with per curiam opinion respecting another issue, 960 S.W.2d 617 (Tex. 1997); Bullock v. Marathon Oil Co., 798 S.W.2d 353, 357 (Tex. App. Austin 1990, no writ). Cf. Humble Oil & Refining Co. v. Calvert, 414 S.W.2d 172 (Tex.

1967); Dudney v. State Farm Mut. Auto Ins. Co., 9 S.W.3d 884, 893 (Tex. App. Austin 2000); Southwestern Life Ins. Co. v. Montemayor, 24 S.W.3d 581 (Tex. App. Austin 2000, pet. denied); and Coastal Indust. Water Auth. v. Trinity Portland Cement Div., 563 S.W.2d 916 (Tex. 1978).

The commission's interpretation of the regulatory impact analysis requirements is also supported by a change made to the Texas Administrative Procedure Act (APA) by the legislature in 1999. In an attempt to limit the number of rule challenges based upon APA requirements, the legislature clarified that state agencies are required to meet these sections of the APA against the standard of "substantial compliance." The legislature specifically identified Texas Government Code, §2001.0225, as falling under this standard. The commission has substantially complied with the requirements of Texas Government Code, §2001.0225.

As defined in the Texas Government Code, §2001.0225 only applies to a major environmental rule, the result of which is to: exceed a standard set by federal law, unless the rule is specifically required by state law; exceed an express requirement of state law, unless the rule is specifically required by federal law; exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or adopt a rule solely under the general powers of the agency instead of under a specific state law. This

rulemaking action does not meet any of these four applicability requirements of a "major environmental rule." The adopted rules will clarify the requirements for degassing of stationary storage tanks, transport vessels, or marine vessels during the process of cleaning, with the specific intent of facilitating compliance and enforcement of the degassing requirements in ozone nonattainment areas. These requirements are control measures for VOC, a precursor of ozone, and are essential for attainment and maintenance of the ozone NAAQS. This rulemaking action does not exceed an express requirement of state law or a requirement of a delegation agreement, and was not developed solely under the general powers of the agency, but was specifically developed to meet the NAAQS established under federal law and authorized under Texas Health and Safety Code, §§382.011, 382.012, and 382.017, as well as under 42 USC, §7410(a)(2)(A).

The commission invited public comment regarding the draft regulatory impact analysis determination during the public comment period. The commission received one comment on the draft regulatory impact analysis from Texas Terminal Operators Group (TTOG), which stated that the proposed rule change to §115.541(f) would be significantly more stringent than the current rules, despite the stated intent of the commission, and the draft regulatory impact analysis. The commission respectfully disagrees, and no changes have been made to the regulatory impact analysis ~~rules~~ in response to this comment~~.~~, although §115.541(f) has been revised. Although TTOG states that the new

rules will be more stringent than existing rules, the only support offered for this statement is that the rule will be contrary to existing New Source Review (NSR) permit requirements, and that the requirement is neither stated by nor implicit in the current rules. However, the commission is including a strict time limit to clarify when degassing must start, as the lack of specific time in the existing rules can imply that degassing must start immediately. In the absence of clear regulatory language, an owner or operator that fails to begin the degassing operations immediately may be subject to enforcement action by the region. Conversely, the lack of rule language regarding a specific time to begin degassing could lead to increased emissions of air pollutants, while a tank or vessel sits for an extended period of time without undergoing degassing. The commission's intent with the current rulemaking is to clarify potentially confusing rule requirements and facilitate compliance and enforcement of the degassing requirements, as stated in the draft regulatory impact analysis. The addition of a specific time frame under which an owner or operator shall begin degassing provides clarity to the rule and facilitate both compliance by affected sources and enforcement by the regional offices. However, because the commission acknowledges that the Chapter 116 permit review process is designed to develop requirements for facilities on a case-by-case basis that evaluates specific circumstances particular to a specific facility, the commission has revised the rule to add §115.541(f)(3), which allows a facility the option to begin degassing on a schedule specified within a Chapter 116 permit, up to a maximum of 72 hours.

TAKINGS IMPACT ASSESSMENT

The commission evaluated the adopted rulemaking and performed an assessment of whether Texas Government Code, Chapter 2007, is applicable. The degassing requirements are designed to control sources of VOC, a precursor of ozone, to ensure attainment and maintenance of the ozone NAAQS. The adopted rules will apply in the Houston-Galveston-Brazoria and Beaumont-Port Arthur areas. The current degassing requirements were triggered as a contingency measure by the commission on May 21, 2010, requiring Dallas, Denton, Collin, and Tarrant Counties to become compliant with the current rules as expeditiously as practical, but no later than one year after the date that the contingency measures were triggered. The one-year period to allow facilities to come into compliance in the rules provides a period of time for facilities to make necessary preparations to meet the monitoring and control requirements of the current rules. The adopted rulemaking is not intended to impose more stringent requirements than the existing rules. Therefore, the adopted rulemaking will be effective in Dallas, Denton, Collin, and Tarrant Counties as expeditiously as practical, but no later than May 21, 2011. The rules may also potentially become effective in El Paso, should they be triggered as contingency measures in the future. The intent of the adopted rulemaking is to clarify the rule requirements, including requirements for testing and sampling, to provide for the use of alternative control equipment, to improve consistency with the new Refinery MSS Model Permit, and implement requirements for the notification of

degassing activities. The adopted rulemaking clarifies requirements that help to ensure the attainment and maintenance of the ozone NAAQS. Therefore, Texas Government Code, §2007.003(b)(4), provides that Texas Government Code, Chapter 2007 does not apply to this adopted rulemaking because it is an action reasonably taken to fulfill an obligation mandated by federal law.

In addition, the commission's assessment indicates that Texas Government Code, Chapter 2007 does not apply to these adopted rules because this is an action that is taken in response to a real and substantial threat to public health and safety; that is designed to significantly advance the health and safety purpose; and that does not impose a greater burden than is necessary to achieve the health and safety purpose. Thus, this action is exempt under Texas Government Code, §2007.003(b)(13). The specific intent of the adopted rulemaking is to facilitate compliance and enforcement of the degassing requirements in the ozone nonattainment areas. These requirements are control measures for VOC, a precursor of ozone, and are essential for attainment and maintenance of the ozone NAAQS.

Consequently, the adopted rulemaking meets the exemption criteria in Texas Government Code, §2007.003(b)(4) and (13). For these reasons, Texas Government Code, Chapter 2007 does not apply to this adopted rulemaking.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission determined the rulemaking is subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act, Texas Natural Resources Code, §§33.201 *et seq*., and therefore must be consistent with all applicable CMP goals and policies. The commission conducted a consistency determination for the proposed rules in accordance with Coastal Coordination Act Implementation Rules, 31 TAC §505.22 and found the adopted rulemaking is consistent with the applicable CMP goals and policies.

The CMP goal applicable to the adopted rulemaking is the goal to protect, preserve, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas (31 TAC §501.12(l)). The CMP policy applicable to the adopted rulemaking is the policy that commission rules comply with federal regulations in 40 CFR, to protect and enhance air quality in the coastal areas (31 TAC §501.32). The adopted rulemaking would not increase emissions of air pollutants and is therefore consistent with the CMP goal in 31 TAC §501.12(1) and the CMP policy in 31 TAC §501.32.

Promulgation and enforcement of these rules will not violate or exceed any standards identified in the applicable CMP goals and policies because the adopted rules are consistent with these CMP goals and policies and because these rules do not create or have a direct or significant adverse effect on any coastal natural resource areas.

Therefore, in accordance with 31 TAC §505.22(e), the commission affirms that this rulemaking action is consistent with CMP goals and policies.

The commission invited public comment regarding the consistency with the coastal management program during the public comment period. No comments were received regarding the consistency with the coastal management program.

EFFECT ON SITES SUBJECT TO THE FEDERAL OPERATING PERMITS PROGRAM

Chapter 115 is an applicable requirement under 30 TAC Chapter 122, Federal Operating Permits Program. If the revisions to Chapter 115 are adopted, owners or operators subject to the federal operating permit program shall, consistent with the revision process in Chapter 122, upon the effective date of the rulemaking, revise their operating permit to include the new Chapter 115 requirements.

PUBLIC COMMENT

The commission scheduled public hearings on this proposal on September 7, 2010, at 10:00 a.m. at the Texas Commission on Environmental Quality, in Austin; on September 8, 2010, at 2:00 p.m. at the Houston-Galveston Area Council in Houston; and on September 9, 2010, at 2:00 p.m. at the Texas Commission on Environmental Quality, Region 4 Office, in Fort Worth. The public hearings were not officially opened because no party indicated a desire to provide comment.

The commission received written comments from Green Environmental Consulting, Incorporated (Green Environmental), Johann Haltermann Limited (Johann Haltermann), Kinder Morgan Energy Partners, Limited Partnership (Kinder Morgan), NanoVapor Fuel Group (NanoVapor), ProAct Services Corporation (ProAct), Remediation Service International (RSI), Texas Chemical Council (TCC), TTOG, Texas Oil and Gas Association (TxOGA), and the EPA.

The commentors suggested modifications to the proposed rules as stated in the RESPONSE TO COMMENTS section of this preamble.

RESPONSE TO COMMENTS

General Comments

Comment

TTOG expressed the support for the commission's efforts to clarify existing rule requirements and to facilitate compliance flexibility.

Response

The commission appreciates the support.

Comment

TxOGA supported development of a registration or certification program or a portable facility permit for approved portable degassing equipment to ensure and demonstrate compliance. TxOGA commented that some compliance issues are related to the owner or operator of the portable degassing equipment and beyond the control of the regulated owner or operator.

TCC commented that performing and documenting compliance demonstrations for contracted control devices should be the responsibility of the contractor operating the control device. TCC stated this would be analogous to gasoline tank trucks for which the owner or operator of the tank trucks is responsible for performing and documenting tests of the tank trucks, and the responsibility of the facility is to obtain and keep a copy of the documentation a laboratory accreditation under the auspices of EPA National Environmental Laboratory Accreditation Conference. TCC commented that in a similar manner, performance and records of stack tests should be the responsibility of the control device owner or operator and not of the facility; the facility owner should be required only to obtain and maintain copies of the documentation.

Response

No changes were made in response to these comments. Compliance with applicable rules is the responsibility of the affected owner or operator even if the work is performed by a third-party contractor. Additionally, the

existing rules and the changes that were proposed only apply to the owner or operator performing or outsourcing the degassing operations that occur during cleaning or in preparation of cleaning a storage tank, transport vessel, or marine vessel. Third-party contractors that are hired by the owner or operator to perform degassing services are not directly subject to the rule. Applying the rule to these third-party contractor companies directly would be an expansion of the rule and could also necessitate enforceable provisions that are not currently included in the rule nor proposed with this rulemaking.

Comment

TxOGA and TCC commented that the commission should provide an option to use low vapor pressure liquid to comply with the requirements of this division. TxOGA requested that the rule be revised to include an alternative for using low vapor pressure product to reduce the tank vapor pressure to less than 0.5 psia. TCC suggested allowing distillate flooding because the approach absorbs VOC vapors rather than expelling them and pollution prevention methods should be favored over capture-and-control methods. TCC commented that the distillate flooding procedure should reduce degassing emissions at least as effectively as the procedures presently proposed and will prevent unnecessary pollution. TCC commented that distillate flooding avoids generation of secondary emissions and is not dependent on the proper functioning of mechanical

systems.

Response

No changes were made in response to these comments. When low vapor pressure liquid is added to the tank or vessel, VOC vapors inside the tank or vessel will be displaced by the liquid volume introduced and will generate spikes of VOC emissions if those emissions are not routed to a control device. The adopted degassing rules do not prohibit distillate flooding or water washing the tank or vessel while the VOC vapor is routed to a control device. The commission does not have sufficient technical data to support the benefits of using the low vapor pressure liquid for degassing if the VOC vapors generated from introducing the liquid are not routed to a control device. The commission may consider the application of low vapor pressure liquid as an alternative in a future rulemaking if more technical data becomes available.

Comment

Kinder Morgan requested the TCEQ determine if there would be any new requirements to its El Paso Break-Out Facility above and beyond existing requirements under the current attainment status or if the attainment status of El Paso changes in the future.

Response

No changes were made in response to this comment. Compliance with the requirements in this division is not currently required in El Paso County. As stated in §115.549(c), affected sources in El Paso County must be in compliance with this division as soon as practicable, but no later than one year, after the commission publishes notification in the *Texas Register* of its determination that this contingency rule is necessary as a result of failure to attain the NAAQS for ozone by the attainment deadline or failure to demonstrate reasonable further progress as set forth in the 1990 amendments to FCAA, §172(c)(9). Additionally, this rule is currently a contingency measure for the one-hour ozone NAAQS. Compliance with the rule would not need to be triggered if the El Paso area is designated as nonattainment for a later ozone standard. If the commission publishes notice in the *Texas Register* then affected sources in El Paso would be required to comply with the applicable requirements in this division. However, Kinder Morgan did not provide sufficient information for the commission to determine if its specific facilities would be affected should the rules be triggered in El Paso County.

Section 115.540, Applicability and Definitions

Comment

TTOG expressed support for the applicability requirement in §115.540(a) clarifying that the degassing rules only apply to degassing during, or in preparation of, cleaning operations.

Response

The commission appreciates the support.

Comment

EPA commented that the rule language in §115.540(a) appears to limit applicability to degassing in preparation for or during cleaning. EPA indicated that it is not clear why the applicability should be limited to just degassing for these reasons since tanks could potentially be degassed for other reasons. EPA recommended modifying the rule applicability in §115.540(a) to apply to the degassing or cleaning of any storage, transport vessel, or marine vessel containing VOC liquids with a true vapor pressure greater than or equal to 0.5 psia under actual storage conditions.

Response

No changes were made in response to this comment. The existing rules and the changes that were proposed only apply to degassing operations that occur during cleaning or in preparation of cleaning a storage tank, transport vessel, or marine vessel. The suggested change would expand the

rule to apply to other operations and newly affected parties not included in the rule at proposal. Therefore, the commission is unable to make this change because these newly affected parties have not been given an opportunity to comment.

Comment

TxOGA suggested that §115.540(a) be revised to apply to the regulated entity performing the degassing or cleaning operation or the third-party contractor performing the degassing or cleaning operation.

Response

No changes were made in response to this comment. As discussed elsewhere in the RESPONSE TO COMMENTS section of this preamble, compliance with the rule is the responsibility of the owner or operator of the tank or vessel subject to the rules and making third-party contractors directly subject to the rule and applying any necessary additional requirements on these third parties would be an expansion of the rule. Therefore, the commission is unable to make this change because these newly affected parties have not been given an opportunity to comment on such substantive changes.

Comment

EPA commented that §115.540(a)(2) indicates that this division only applies to any storage tank or transport vessel in Collin, Dallas, Denton, and Tarrant Counties and encouraged the commission to consider adding the counties of Ellis, Johnson, Kaufman, Parker, and Rockwall to cover all nine counties in the Dallas-Fort Worth 1997 eight-hour ozone nonattainment area.

Response

No changes were made in response to this comment. The existing rules and the changes that were proposed only apply to storage tanks and transport vessels in Collin, Dallas, Denton, and Tarrant Counties. Therefore, the commission is unable to make this change because newly affected sources in the five additional counties suggested by EPA would not have been given an opportunity to comment.

Comment

TCC commented that the definition of *Cleaning* in §115.540(b)(1) is overly broad in that it includes the removing of vapor as an activity that constitutes cleaning. TCC commented that under this definition, normal operations of a tank or vessel could be mistakenly construed as cleaning if those normal operations involve any release of vapors, such as the vapors displaced by incoming liquid during loading. TCC suggested

revising the definition to eliminate the potential for confusion by simply striking the word vapor from the definition of cleaning.

TTOG commented that because the term *Cleaning* is not defined by the current rules, it should be given its customary meaning, which does not include removal of vapors. TTOG commented that by expanding the meaning of *Cleaning* in §115.540(b)(1) to include degassing, the rules would seem to apply to all degassing operations, rather than merely degassing operations during or in preparation of true cleaning.

TxOGA commented that the definition of *Cleaning* in §115.540(b)(1) is important because it determines rule applicability for this rule and added that it is important not to define the term so broadly as to affect activities that should not be subject to this regulation. TxOGA suggested that removal of vapors should be deleted from the definition of *Cleaning*.

Response

The commission agrees with the commentors and has revised the definition of *Cleaning* in §115.540(b)(1) to exclude the removal of vapor. The original intent of the proposed definition was to include removal of vapors generated during the cleaning process. However, as discussed elsewhere in the RESPONSE TO COMMENTS section of this preamble, the commission is

revising the definition of *Degassing* in §115.540(b)(2) to include the removal of vapors generated during, or in preparation of, cleaning. The revised definition of *Degassing* now includes the removal of vapors resulting from the cleaning process. Therefore, it is no longer necessary for the definition of *Cleaning* to include this activity.

Comment

TCC commented that the definition of *Degassing* in §115.540(b)(2) conflicts with the usage of that term in numerous regulations. TCC stated that EPA regulations use the term *emptied and degassed* to refer to a tank that has been cleaned and is gas-free, in the sense of being safe for personnel entry and therefore, in a suitable condition for an up-close inspection of the floating roof. TCC suggested that for consistency with federal rules, the term *Degassing* should be used only in the context of venting the tank for the purpose of cleaning, inspection, or maintenance. TCC commented that it is critical to explicitly state the link to cleaning in the definition, so as to avoid creating a definition of degassing that may unnecessarily confuse the requirements of existing regulations. TCC suggested revising §115.540(b)(2) to define *Degassing* as the process of removing VOC vapors during or in preparation for cleaning, maintenance, or inspection of a storage tank, transport vessel, or marine vessel.

TxOGA commented that the definition of *Degassing* in §115.540(b)(2) is important

because it determines rule applicability for this rule and added that it is important not to define the term so broadly as to affect activities that should not be subject to this regulation. TxOGA commented that the definition of *Degassing* is not consistent with the usage of that term in federal rules such as New Source Performance Standards, Subpart Kb, where the phrase *emptied and degassed* refers to a tank that is clean and gas-free, safe for entry and up-close internal inspection. TxOGA suggested revising §115.540(b)(2) to define *Degassing* as the process of removing VOC in preparation of cleaning a storage tank, transport vessel, or marine vessel for maintenance or inspection.

Response

The commission agrees with the commentors and has revised the definition of *Degassing* in §115.540(b)(2) to include the removal of VOC vapors from a storage tank, transport vessel, or marine vessel during, or in preparation of, cleaning. In addition, the commission has revised the rule, including the title of Subchapter F, Division 3, to only refer to emissions generated during the degassing process.

Section 115.541, Emission Specifications

Comment

TTOG commented that the proposed rule frequently uses the phrases *degassing and*

cleaning and *degassing or cleaning* and suggested revising the rule to just use the term *degassing*.

Response

The commission agrees with the commentor and has made the suggested change. As discussed elsewhere in this preamble, in response to comments the commission has revised the definition of *Degassing* in §115.540(b)(2) and replaced phrases *degassing and cleaning* and *degassing or cleaning* with the term *degassing* throughout this division. In addition, the title of this division has been revised to Degassing of Storage Tanks, Transport Vessels, and Marine Vessels to reflect the change. These changes are intended to clarify the rule applicability.

Comment

EPA suggested using the phrase *degassing and cleaning* instead of *degassing or cleaning* in §115.541(a).

Response

No changes were made in response to this comment. As discussed elsewhere in this preamble, in response to comments the commission has revised the definition of *Degassing* in §115.540(b)(2) and replaced phrases

degassing and cleaning **and** ***degassing or cleaning*** **with the term** ***degassing*** **throughout this division. In addition, the title of this division has been revised to Degassing of Storage Tanks, Transport Vessels, and Marine Vessels to reflect the change. These changes are intended to clarify that the rule applies to degassing that occurs during, or in preparation of cleaning. The suggested change would expand the applicability of the existing rule and is outside the scope of the current revision.**

Comment

TTOG commented that when the VOC concentration in a storage tank, transport vessel, or marine vessel meets the degassing specifications in §115.542(b) without use of a control device, the rule should clearly state that no control device needs to be used. TTOG suggested revising §115.541(a) to state that a control device need not be used if the VOC concentration inside the tank is less than 34,000 ppmv, expressed as methane or less than 50% of the LEL expressed as methane.

Response

The commission agrees with the commentor and has revised §115.541(a) to indicate that all VOC vapors must be routed to a control device unless the measured VOC concentration is less than 34,000 ppmv, expressed as methane or 50% of the LEL.

Comment

EPA commented that §115.541(b) should be revised to require visible and audible leaks be repaired before degassing continues with allowance for components under negative pressure.

Response

No changes were made in response to this comment. The commission respectfully disagrees with the suggested change. The inspection requirements in §115.544(a) do not require inspection for leaks using auditory means, and the suggested change would be inconsistent with the inspection requirements. The current inspection and monitoring requirements included in the adopted rule are sufficient to ensure proper operation of control equipment and detect any significant leaks. The commission also respectfully disagrees that the degassing process should be discontinued if a visible leak is detected if the leak is repaired as soon as possible. Such a requirement could require owner or operators to stop and restart degassing operations numerous times while degassing a tank or vessel to repair minor leaks, which could cause greater emissions than the repairs would prevent.

Comment

EPA suggested revising the requirement in §115.541(c) that no avoidable liquid or gaseous leaks, as detected by sight or sound, may originate from the degassing or cleaning operation. EPA suggested removing the word *avoidable* from the requirement because the term is ambiguous.

Response

No changes were made in response to this comment. While the term *avoidable* may be somewhat subjective, the commission disagrees that the suggested change would provide clarity. Removing the term might imply that even the smallest leak in the system is a violation of the rule and that all leaks are avoidable, which is not the commission's intent. Additionally, the preamble to the 1994 adopted rule (19 TexReg 3073) describes unavoidable leaks as those that would occur during an upset condition.

Comment

TTOG suggested revising §115.541(d) to state that a transport vessel must remain vapor-tight until VOC vapors are routed to a control device except when opening the vessel to inspect for, and remove as necessary, any residual liquid heel prior to beginning the degassing or cleaning process; any residual pressure contained in the vessel must be routed to a control device that meets the requirements in §115.542(a) until the transport

vessel reaches ambient pressure. TTOG commented the change is necessary because §115.546(a)(1)(B) requires records of the quantity of liquid in the vessel prior to degassing, which cannot be obtained without opening and inspecting the vessel. TTOG commented that the common practice of opening transport vessels to inspect for and remove residual liquid heels prior to degassing and cleaning is beneficial because it reduces overall VOC emissions and reduces residual VOC liquid mixing in with the wash water stream. TTOG added that the practice is currently required as best available control technology in agency NSR permits.

Response

No changes were made in response to this comment. The commission respectfully disagrees that the suggested changes are necessary to comply with the requirements in §115.546(a)(1)(B) to estimate the quantity of liquid in the vessel prior to degassing. The suggested change also does not appear to be necessary to comply with best available control technology in agency NSR permits because this requirement applies to removing the liquid heel prior to cleaning and still requires the vessel to first be degassed to a control device. In addition, the suggested change would be a relaxation of the existing requirements.

Comment

TCC suggested that for clarity §115.542(f) should be revised to state that in addition to the requirements in subsections (a) - (c) of this section, all VOC vapors from a floating roof storage tank subject to §115.140(a) concerning preparation of a storage tank, transport vessel, or marine vessel for cleaning, inspection, or maintenance must be routed to a control device immediately but no later than 24 hours after the tank has been emptied to the extent practical or the drain pump loses suction.

Response

No changes were made in response to this comment. As stated in §115.540(a), the commission agrees that the requirements in this division, including the requirement in §115.541(f), apply to degassing during, or in preparation of, cleaning any storage tank, transport vessel, or marine vessel containing VOC with a true vapor pressure greater than or equal to 0.5 psia under actual storage conditions. However, the commission does not agree that the suggested change is necessary to clarify the rule applicability.

Comment

TCC commented that in its broadest sense, the requirement for all floating roof storage tanks to route vapors to a control device within 24 hours after landing a floating roof might include floating roof landings not associated with degassing or cleaning events.

TCC stated this rulemaking should not address scenarios that are outside the scope of the specified degassing rule applicability. TCC added that rules to address floating roof landings for tanks or events outside the applicability of the degassing rule should be addressed as proposed amendments to the storage tank rule in §115.112(d)(2).

TTOG suggested deleting §115.541(f) because it has limited benefit and in some cases conflicts with NSR permits. TTOG also raised concerns with technical infeasibility due to changes in scheduling, especially if a third party's portable control device is used. TTOG added that the provision was much more stringent than the current rule, which was contrary to the commission's stated intent at proposal. TTOG also commented that the change was not necessary for SIP approvability because the EPA has previously approved the rules. TTOG commented that §115.541(f) should be deleted or revised to limit the requirement's applicability to certain operating scenarios and its severity should be reduced. TTOG suggested alternative language that would extend the time limit to 72 hours and create exemptions from the time limit for cleaning and degassing operations authorized under Chapter 106 or 116, drain dry tanks, and for tanks where the material most recently stored has a vapor pressure not greater than 1.5 psi. TTOG also objected to the application of the same or a similar requirement to other types of storage tanks.

TxOGA strongly opposed the 24-hour limit in §115.541 because terminals cannot always

comply with this new requirement. TxOGA commented that despite proper planning, it may take more time for the contractor to mobilize, and the contractor's schedule and delays are beyond the terminals' control, or there may be an unscheduled event such as a tank identified for immediate emptying and repair. TxOGA suggested controlled degassing begin no later than 72 hours after the tank drain pump losses suction or the tank has been emptied to the extent practical by other means. TxOGA commented that the technical basis for this suggestion is the use of equations from API Technical Report 2568 indicating that minimal emissions occur from the daily standing idle loss and added that the majority of emissions occur during the ventilation and sludge removal process. TxOGA also suggested an exemption for drain-dry tanks since they do not continue to generate vapors beyond the 24-hour limit.

Response

The commission agrees that in some instances the 24-hour limit may not be necessary and has revised §115.541(f) to extend the degassing start time from 24 hours to 72 hours if the most recently stored product has a true vapor pressure less than 1.5 psia. Drain-dry floating roof tanks have also been exempted from the requirement of §115.541(f); however, a drain-dry floating roof tank remains subject to the other requirements in this division. The commission does not agree that 72 hours is routinely necessary to begin degassing and maintains that the 24-hour time limit is

feasible with proper planning in most circumstances. However, the commission agrees that there may be extenuating circumstances where more time may be appropriate and some flexibility in the rule is necessary. Therefore, the commission adopts §115.541(f)(3) as an alternative for the owner or operator to comply with the time limit established in a permit issued under Chapter 116 up to a maximum of 72 hours after the tank has been emptied to the extent practical or the drain pump losses suction. The permit review process required by Chapter 116 offers a better opportunity for the commission to review possible extenuating circumstances that may apply on a case-by-case basis, therefore, the requirements developed as part of the Chapter 116 permit will offer the necessary protections for air quality that are contingent on when the degassing process should start. According to the TCEQ Air Permits Division, 72 hours is the maximum amount of time allowed before degassing must start within any permits currently issued under Chapter 116. If the case-by-case review for the permit establishes that 24 hours is the appropriate time limit for degassing to start, then the 24 hours becomes the enforceable time limit for the purposes of subsection (f)(3). If the case-by-case review demonstrates that extenuating circumstances justify additional time before degassing must start, then subsection (f)(3) provides the flexibility necessary to account for these circumstances but also sets an upper limit of 72 hours. The upper

limit of 72 hours is necessary to establish replicability in the rule and help ensure EPA approval but is not intended to be a constraint on the case-by-case review process for permitting. Owners or operators of sites with a permit that does not set a time limit for when degassing must start would be subject to subsection (f)(1) or (2), as applicable, and subsection (f)(3) would not apply. The commission does not agree that the owner or operator can start the degassing to comply with a permit issued under 30 TAC Chapter 106, Permits By Rule, because there is no time limit established to start the degassing under §106.263, Routine Maintenance, Start-up and Shutdown of Facilities, and Temporary Maintenance Facilities. In addition, a case-by-case review is not necessary for a site to apply for and use a Chapter 106 permit by rule, and subsection (f)(3) would not apply.

With regard to the comment that the provision is unnecessary for SIP approvability, the commission did not propose the provision to obtain SIP approvability. The time limit is intended to minimize standing idle emissions from floating roof storage tanks by ensuring that the tanks are degassed to a control device as expeditiously as practicable. Furthermore, §115.541(f) was not proposed solely as a clarification as suggested by TTOG. While the provision does provide clarity as to when degassing to a control device was required to begin, the stated intent of the provision in the

preamble of the proposed rules (35 TexReg 6980) was also to minimize standing idle emissions from floating roof storage tanks.

Finally, the commission is not expanding this requirement to apply to other types of storage. The primary purpose of the provision was to help address standing idle emissions from floating roof storage tanks, and the commission has determined that it is not necessary to expand the time limit to other tanks at this time.

Comment

EPA suggested that the word *immediately* be replaced with the phrase *as soon as possible* in §115.541(f).

Response

The commission agrees with the commentor and has made the suggested change.

Section 115.542, Control Requirements

Comment

TxOGA suggested revising §115.542 to state that the control device must maintain a control efficiency of at least 90% and must be operated within the parameters used

during the source test.

Response

No changes were made in response to this comment. Section 115.542(a)(1) states that the control device must maintain a control efficiency of at least 90% and must be operated in a manner consistent with how the device was operated during the control efficiency demonstration required in §115.544(c). This requirement does not mean that the control device must be operated exactly the same as the control device operated during the control efficiency demonstration. The commission understands that the flow rate will change according to the heat loading to the control device. However, the flow rate should not exceed the maximum design flow rate of the control device during the degassing operation. The commentor's suggested wording has the same meaning as the proposed rule language.

Comment

TCC suggested that §115.542(a)(2) concerning the use of a flare as a control device should be revised to eliminate the proposed additional requirement to ensure the flare is lit at all times. TCC commented that this language is ambiguous and inconsistent with federal regulatory language requiring monitoring of the pilot flame, gives the appearance of requiring additional flare monitoring, and is redundant to the

requirement in §101.221(a) that all pollution emission capture equipment and abatement equipment is to be maintained in good working order and operated properly during facility operations. TCC commented that new or additional flare requirements are outside the scope of this rulemaking and should be reserved until such time as additional scientific evidence mandates change. TCC suggested §115.542(a)(2) be revised to require the control device to be a flare that is designed and operated in accordance with 40 CFR §60.18(b) - (f) and 30 TAC §101.221(a).

TTOG supported the principle behind the structure of §115.542(a) that the standards applicable to control devices used in degassing should be relevant to the types of control devices used and should offer reasonable flexibility. However, TTOG objected to language in §115.542(a)(2) that would regulate the ignition of VOC vapors and supplemental fuel, not merely the pilot flame, because this parameter is not easy to verify. TTOG commented that flares typically are not equipped or required to be equipped with instrumentation to monitor actual ignition of the flared materials, and the flame itself is often invisible. TTOG commented that the reference to federal requirements for flares in 40 CFR §60.18(b) - (f) is the appropriate way to regulate flares at this time. TTOG commented that although current research may suggest that flares may not always successfully ignite VOC vapors that pass through them, such an indication would not foreclose the more general conclusion that a flare operated consistently in accordance with 40 CFR §60.18(b) - (f) can provide emissions control

performance that matches or exceeds the proposal's more general 90% control efficiency requirement. TTOG did not believe that the appropriate response to doubts about the overall control efficiency of flares is to make tank operators accountable for non-combustion. TTOG added that a requirement for the flare itself to be continuously lit in addition to the requirements in 40 CFR §60.18(b) - (f) represents a significant departure from the commission's historical regulation of flares and does considerably more than clarify how flares are treated under the current tank degassing rules. TTOG commented that such a requirement would warrant an extended compliance period to develop and install appropriate instrumentation on flares used in degassing. TTOG suggested §115.542(a)(2) be revised to require the control device to be a flare that is designed and operated in accordance with 40 CFR §60.18(b) - (f).

Response

No changes were made in response to these comments. In addition to complying with the operating parameters in 40 CFR §60.18, the commission is requiring that flares used during degassing operations must be lit at all times when VOC vapors are routed to the device. Although 40 CFR §60.18 requires the pilot to be lit at all times and requires monitoring of the flare pilot flame, the commission is also specifically requiring the flare flame to be lit to clarify that the intent of the rules is for both the flare flame and the pilot to be lit at all times when VOC vapors are routed to the

device. The commission respectfully disagrees with TTOG's suggestion that the change is a significant departure from the commission's historical regulation of flares. It has always been the commission's expectation that the actual flare flame be lit as part of the proper operation of a flare. The language in §115.542(a)(2) makes this expectation clear in the rule. Furthermore, the §115.542(a)(2) does not require additional monitoring to verify the flare flame presence. Affected regulated entities may install additional monitoring to perform this verification if they choose to, but the rule does not require monitoring. Owners or operators have the flexibility to select the means that compliance with §115.542(a)(2) is demonstrated.

The commission respectfully disagrees with TCC's comment that the provision is ambiguous and redundant with §101.221(a). The provisions in §101.221(a) are more general while the language in §115.542(a)(2) makes the commission's intent clear that the flare shall be lit at all times when VOC vapors are routed to the flare.

Comment

ProAct requested the commission confirm the interpretation that no initial or follow-up control efficiency demonstration is required if the control options in §115.542(a)(2) - (4) are used.

Response

The commission confirms the interpretation.

Comment

NanoVapor suggested including specific rules allowing the use of suppression technologies. Specifically, NanoVapor suggested the commission define a vapor suppression system as a control device that uses low vapor pressure chemistry inserted above the stored liquid level, without displacement of VOC from the vessel, which reduces and maintains the vapor pressure of the contained VOC to partial pressure of 0.5 psia or less; these systems generally consist of a delivery system, piping, ductwork, and pressure or concentration monitoring equipment. NanoVapor added that as this technology eliminates vapor creation rather than destroying vapors after creation, current regulations may not apply. NanoVapor also suggested including a new §115.542(a)(5) to allow the use of a vapor suppression system that does not cause the pressure inside the tank or vessel to increase by more than one inch water pressure above atmospheric pressure at any time during the degassing or cleaning operation. NanoVapor suggested the commission provide an alternative in §115.542(b) to allow a tank or vessel to be vented to the atmosphere without control once a control device using vapor suppression technology has reduced the true vapor pressure within the tank or vessel below 0.5 psia.

Response

No changes were made in response to this comment. The vapor suppression system technology is currently still under development. Additional technical information is necessary to demonstrate that this technology works when the liquid heel surface is disturbed. The commission may consider the application of a vapor suppression system as an alternative in a future rulemaking if more technical data becomes available.

Comment

EPA recommended deleting the requirement in §115.542(b) that the percent LEL measurements be expressed as methane. EPA commented that since LEL is expressed as a percentage, a comparison to methane is not necessary and may be confusing.

Response

The commission agrees with the comment and has deleted the requirement that the percent LEL measurements be expressed as methane in this section and in all other sections in this division.

Comment

Green Environmental requested the commission further explain the allowable concentration limit in proposed §115.542(b). Green Environmental commented that it does not appear that the 34,000 ppmv limit has any specific relationship with methane, since it is based on molar volumes at 0.5 psia of VOC partial pressure and requested the commission remove the requirement for this measurement to be expressed as methane. Green Environmental commented that if the molecular weights of methane and air were included in the 34,000 ppmv limit calculation, then it may be more appropriate to show this criterion as 34,000 ppmv VOC or 19,000 parts per million by weight as methane. Additionally, Green Environmental questioned how 50% of the methane LEL, or 25,000 ppmv, compares to 34,000 ppmv and asked the commission to clarify if the intention is to require a more stringent limit when measured by an LEL meter, or if this should instead be 50% of the LEL for the individual VOC being tested with a methane-calibrated meter.

Response

No changes were made in response to this comment. The 2007 preamble to the degassing rule revisions (32 TexReg 3178) stated that the VOC concentration equivalent to 50% of the LEL is less than 34,000 ppmv; therefore, 50% of the LEL is an acceptable criterion to determine when degassing vapors can stop being routed to a control device. An LEL meter is commonly used for confined space entry and provides a more stringent

limit than 34,000 ppmv. As discussed elsewhere in this RESONSE TO COMMENTS section, all references to requiring the LEL to be expressed as methane have been removed from the adopted rule. With regard to expressing the 34,000 ppmv, expressed as methane, this requirement is consistent with the current rule and expressing the VOC concentration as a surrogate is necessary given the methods used to determine the concentration level for the purposes of the rule. Portable analyzers that may be used with Method 21 must be calibrated with a reference compound, and methane is the typical calibration reference for analyzers equipped with flame ionization detectors. The commentor is correct that 34,000 ppmv, expressed as methane may not directly correlate to 34,000 ppmv as a different compound. However, determining the true VOC concentration as the exact species of VOC would require more advanced and costly test procedures than currently prescribed by the rule for monitoring the VOC concentration in the degassed vapors. The 34,000 ppmv concentration threshold reported as methane establishes a consistent methodology for performing the monitoring.

Comment

TTOG commented that the location of the VOC monitoring equipment in §§115.542(b), 115.544(b)(3), and 115.544(b)(4)(C)(ii) should be revised to accommodate degassing

units that cannot measure vapor space VOC concentrations immediately before the inlet to the control device. TTOG suggested revising the rules to allow the VOC concentration to be measured before the inlet to the control device or inside the vapor space.

Response

As proposed, §§115.542(b), 115.544(b)(3), and 115.544(b)(4) require the VOC concentration to be measured before the inlet to the control device but do not require the VOC samples to be taken immediately before the inlet to the control device. While as proposed, the language could still be interpreted to allow VOC concentration measurements taken inside the tank or vessel vapor space, the commission agrees that the rules should clearly indicate that this is allowed. Therefore, the commission has included §115.544(b)(6) in the adopted rule that clarifies that the sampling location for performing the monitoring required by §115.544(b)(3) may be immediately before the control device, in the transfer line from the tank or vessel to the control device, or in the vapor space of the tank or vessel provided it is representative of the concentration of VOC entering the control device. In addition, the commission has removed the references to before the inlet to the control device from adopted §§115.542(b), 115.544(b)(3), and 115.544(b)(4).

Comment

TTOG suggesting revising §115.542(d) to delete the requirement that all lines are closed when disconnected or equipped to discharge residual VOC in the line into a closed recovery or disposal system after degassing or cleaning is complete. TTOG commented that the proposed rule language would require containment of air in hoses and lines that meets degassing specifications.

Response

The commission has revised the rule as suggested. The VOC concentration in the transfer lines will already be less than the VOC concentration that is required to be routed to a control device and therefore will not need to be controlled to demonstrate compliance with the requirements in this division.

Section 115.544, Inspection, Monitoring, and Testing Requirements

Comment

TxOGA agreed that monitoring once every 15 minutes is sufficient to demonstrate compliance with the continuous monitoring requirements in §115.544.

Response

The commission appreciates the support.

Comment

Section 115.544(a)(2) requires degassing or cleaning through the affected transfer lines to be discontinued when a leak is observed and the leak cannot be repaired within a reasonable length of time. EPA suggested removing the phrase *and the leak cannot be repaired within a reasonable length of time* from §115.544(a)(2) because it is ambiguous.

Response

No changes were made in response to this comment. The commission respectfully disagrees with the suggested change. Similar to the commentor's suggested change to §115.541(c), removing the provision could require owner or operators to stop and restart degassing operations numerous times while degassing a tank or vessel to repair minor leaks, which could cause greater emissions that the repairs would prevent. The commission expects that degassing operations would be discontinued if the emissions resulting from continued operation of the leaking control device would be greater than the emissions generated by a shutdown of the control device to repair the leak.

Comment

Green Environmental commented that many of the repeated measurements are aimed at determining continued evolution of VOC from sludge in stationary storage tanks. Green Environmental suggested that if this is the case, marine and transport vessels should be exempt from these repeated measurements, as should tanks that are cleaned frequently, especially drain-dry tanks, since this minimizes the possibility for sludge accumulations. Green Environmental added that once personnel are entering the vessel to complete the cleaning, drying, or inspection, United States Occupational Safety and Health Administration (OSHA) regulations should take precedence, and the personnel should be allowed to concentrate strictly on their own safety while in a confined space.

Response

No changes were made in response to this comment. The commentor has not provided sufficient basis for why marine vessels, transport vessels, and frequently cleaned tanks should be exempt from the monitoring requirements of the rule. While the commission strives to ensure its rules do not interfere with safe facility operation, it is not the purpose of these rules to ensure the tank is safe for personnel to enter. The purpose of the rules in Subchapter F, Division 3 is to minimize VOC emissions from the degassing of tanks and vessels and the commission maintains that the monitoring requirements do not cause an unsafe condition. The measurements required by §115.544(b)(4) are necessary to ensure that

degassing to a control device was not discontinued prematurely. Additionally, as discussed elsewhere in this RESPONSE TO COMMENTS section, the adopted rule establishes provisions that allow for ceasing the measurements required by §115.544(b)(4) if the tank or vessel has been degassed to a VOC concentration level sufficiently low to ensure the concentration will not likely rise back above the control level required for the rule. The commission has determined that if the threshold is set at 6,800 ppmv, expressed as methane 10% LEL, it is unlikely that the VOC concentration will increase above 34,000 ppmv or 50% of the LEL. In addition, to comply with the OSHA confined space entry standard, the tank or vessel must be degassed to 10% of the LEL in order to send people into the tank for cleaning.

Comment

TCC requested clarification that for control devices not specifically listed in §115.544(b)(2)(A) - (H), the owner or operator may select any operational parameters necessary to demonstrate proper functioning of a control device in accordance with §115.544(b)(2). TCC commented that some control devices, such as absorbers, that may meet the control requirements in §115.542(a)(1) or (4) are not specifically listed in the monitoring section.

Response

The commission agrees with the commentor and is adopting §115.544(b)(2)(J) to specify that for a control device not listed in §115.544(b)(2), the owner or operator shall continuously monitor one or more operational parameters sufficient to demonstrate proper functioning of the control device to design specifications. In addition, the commission is adopting §115.546(a)(2)(J) requiring the owner or operator to maintain records of the continuous operational parameter monitoring required in §115.544(b)(2)(J) sufficient to demonstrate proper functioning of the control device not listed in this paragraph.

Comment

TTOG suggested adding a new option to §115.544(b)(2) to allow an owner or operator to comply with control device monitoring requirements based on corresponding monitoring requirements in an applicable permit.

Green Environmental suggested revising §115.544(b)(2)(E) to allow facilities with hydrogen or supplemental fuel monitoring conditions in their NSR permits to fall back on the specific requirements in their permits in lieu of these requirements. Green Environmental commented that the commission has been inserting flare monitoring requirements into NSR permits for the past few years and often requires site-specific

negotiations in order to make arrangements that will demonstrate compliance with 40 CFR §60.18 using as much of the facility's existing instrumentation as possible. Green Environmental commented that the NSR requirements are specifically negotiated in a way that uses the instrumentation available at a particular facility; for example, there may not be a continuous calorimeter or a monitor of the supplement fuel itself, but a monitor of another parameter that the facility has shown through NSR permit negotiations will demonstrate continuous compliance with 40 CFR §60.18. Green Environmental added that the NSR permits typically require that the monitors be operational 95% of the time, whereas this proposed regulation does not make such an allowance.

Response

No changes were made in response to these comments. The commission does not agree with the commentors' suggestion to allow an owner or operator to comply with control device monitoring requirements based on corresponding monitoring requirements in an applicable permit. Subchapter F, Division 3 is included in the SIP and establishing consistency in the monitoring and testing methods is necessary for EPA approval of the revised rule. However, the commission does agree that additional flexibility is needed in the monitoring provisions of the rule to allow the executive director to approve minor modifications or alternatives to the

monitoring. Therefore, §115.544(b)(5) is included in the adopted rule to allow the executive director to review and approve modifications and alternatives, if determined to be appropriate. Adopted subsection (b)(5) allows the executive director to approve minor modifications as well as alternative monitoring. Similar to the alternative test method provisions in §115.545(15), alternative monitoring methods must be validated using the comparison procedures in EPA Method 301. These provisions for modifications and alternatives to monitoring requirements have been approved by the EPA in prior rulemaking.

Comment

TxOGA suggested requiring the owner or operator to monitor any operational parameters defined in the source test necessary to demonstrate proper functioning of a control device used to comply with this division at all times when VOC vapors are routed to the device.

Response

No changes were made in response to this comment. However, as discussed in the RESPONSE TO COMMENTS section of this preamble, the commission is adopting §115.544(b)(2)(J) to specify that for a control device not listed in §115.544(b)(2), the owner or operator shall continuously monitor one or

more operational parameters sufficient to demonstrate proper functioning of the control device to design specifications.

Comment

Green Environmental commented that the inspection, monitoring, and testing requirements in §115.544 is the first time it has seen an attempt in a general VOC rule to codify methods to demonstrate compliance with 40 CFR §60.18 for flares. Green Environmental suggested that such an endeavor might best be handled in a separate rule review, since the incorporation of this verbiage will be setting a significant regulatory precedent that should be called to the attention of the regulatory community as a whole, as opposed to those specifically following the tank degassing rule.

Response

No changes were made in response to this comment. The existing rules require VOC vapors from affected tanks or vessels to be routed to a control device until the concentration is less than 34,000 ppmv, expressed as methane. However, as the VOC vapor concentration approaches 34,000 ppmv, there may not be sufficient heat content to meet the minimum net heating value requirements in 40 CFR §60.18. Therefore, it may be necessary to monitor the net heating value of the VOC vapors routed to the flare to ensure there is sufficient energy available to support combustion.

Comment

TTOG commented that the extraordinary requirements in §115.542(a)(2) and §115.544(b)(2)(E) should be evaluated evenly across different constituencies that use flares for emissions control in various operating scenarios. TTOG commented that the commission currently has a Flare Task Force Stakeholder Group, the purpose of which is to help keep stakeholders informed and solicit comments on potential future agency actions related to flares. TTOG suggested the commission's deliberations on whether to require that a flare be continuously lit would be better informed in the context of a rulemaking in which flare operation generally is the focus and in which a larger constituency is invited to comment.

Response

No changes were made in response to this comment. As discussed elsewhere in this RESPONSE TO COMMENTS section, the commission is specifically requiring the flare flame to be lit to clarify that the intent of the rules and the commission's expectation is that both the flare flame and the pilot are lit at all times when VOC vapors are routed to the device. The commission also respectfully disagrees that the monitoring requirements specified for flares in this rulemaking would be best considered in the context of other operations. The emissions from the degassing of tanks and

vessels are somewhat unique in that it is an event-driven operation that results in the degassing stream being sent to the flare likely approaching a point that the flare will not operate properly without supplemental fuel, i.e., below the minimum net heating value requirements in 40 CFR §60.18. Applying appropriate monitoring for flares used for the purposes of this rule is best considered in the context of this rulemaking and not in a more general context.

Comment

Green Environmental commented that §115.544(b)(2)(E) should allow facilities the option to monitor hydrogen content instead of heating value for flares complying with 40 CFR §60.18(c)(3)(i). Johann Haltermann commented that §115.544(b)(2)(E) makes no allowances for operating a flare using hydrogen as a supplement per 40 CFR §60.18(c)(3)(1)(i). Johann Haltermann commented that there are no British thermal units (Btu) requirements when using hydrogen as a supplement, only a percent hydrogen requirement before burning. Johann Haltermann suggested revising §115.544(b)(2)(E) to limit compliance to only those sources using natural gas as a supplemental fuel so that companies that currently do not have a calorimeter on their flare would not need to install one. Johann Haltermann added that installation of a calorimeter is an unnecessary burden when a company can prove that the net heating value at the flare meets the requirements of 40 CFR §60.18.

Response

The commission agrees with the comments concerning hydrogen and is adopting clause (iv) specifying that for a non-assisted flare that qualifies for the provisions in 40 CFR §60.18(c)(3)(i), the owner or operator may elect to continuously monitor the hydrogen content of the gas stream routed to the flare and continuously meet the minimum 8.0% by volume hydrogen content requirement in lieu of the requirements in clauses (i) - (iii). The commission respectfully does not agree that it is appropriate to limit compliance to only those sources using natural gas as a supplemental fuel so that companies could avoid installing a calorimeter. The installation of a calorimeter is one of the compliance options provided in the rule but the rule does not require the use of this technology. Therefore no changes were made in response to this comment.

Comment

TTOG requested that §115.544(b)(2)(E)(i) be revised to replace the term *VOC vapors* with the term *gas stream*. Section 115.544(b)(2)(E)(i) requires continuous monitoring of the net heating value of the VOC vapors routed to the flare.

Response

The commission agrees with the commentor and has replaced the term *VOC vapors* with the term *gas stream* since it more appropriately represents the total net heating value routed to the flare.

Comment

Green Environmental suggested revising §115.544(b)(2)(E)(i) and (ii) to add an introductory sentence to indicate that the purpose of this monitoring is to demonstrate compliance with the requirements in 40 CFR §60.18.

Response

The commission agrees with the commentor and has revised §115.544(b)(2)(E) to clarify that the monitoring requirements listed in this subparagraph are necessary to demonstrate compliance with the requirements in 40 CFR §60.18.

Comment

Green Environmental commented that §115.544(b)(2)(E)(ii) does not specify that the volume of supplemental fuel added must be considered with the total waste gas flow (with assumed zero Btu value) in order to demonstrate an overall heating value per standard cubic foot of the flared gas. Green Environmental stated that since the control requirement no longer applies once the VOC concentration is below 34,000 ppmv, the

owner or operator should be allowed to assume that 3.4% of the gas stream to the flare, prior to natural gas or hydrogen supplementation, contributes Btu value from the specific VOC being degassed rather than assuming zero heating value from the VOC vapors routed to the flare.

TTOG stated that proposed §115.544(b)(2)(E)(ii) would call for monitoring of flare parameters that are not relevant to flare performance to the extent that it addresses the volume of supplemental fuel or monitoring or calculations solely addressed to the non-fuel component of the gas stream.

Response

The commission agrees with the commentors and has revised §115.544(b)(2)(E)(ii) to allow the owner or operator to continuously monitor the total volume of supplemental fuel added to the gas stream routed to the flare and continuously maintain sufficient supplemental fuel to meet the minimum net heating value requirements in 40 CFR §60.18 assuming that the net heating value contribution from the degassed VOC vapor is equivalent to a level corresponding to 50% of the LEL. The owner or operator may estimate the volumetric flow rate from the tank or vessel for the purpose of this calculation if the flow rate of the degassed VOC vapor is not directly monitored. Assuming a VOC concentration corresponding to

50% of the LEL will reduce the amount of supplemental fuel required while conservatively assuring that the net heating value of the fuel and degassed VOC vapor combination is over the value specified in 40 CFR §60.18.

Comment

TCC requested §115.544(b)(2)(E)(ii) be revised to clarify that in addition to the continuous monitoring options provided for a flare, the owner or operator is alternatively allowed to comply with the monitoring requirements of 40 CFR §60.18(f)(2) including detection of a pilot flame.

Response

No changes were made in response to this comment. The monitoring requirements in 40 CFR §60.18(f)(2) are intended to demonstrate presence of the flare pilot flame and are already incorporated by reference in §115.542(a)(2). The monitoring requirements in §115.544(b)(2)(E) are intended to demonstrate compliance with the minimum net heating value requirements in 40 CFR §60.18(c)(3)(ii). The commission does not agree that monitoring the flare pilot flame is an appropriate demonstration of compliance with the minimum net heating requirements.

Comment

Green Environmental suggested that an option be added to §115.544(b)(2)(E) to allow a discrete flare performance test during a period of cleaning or degassing as a means of demonstrating compliance with 40 CFR §60.18, since this means of demonstration is routinely allowed under EPA rules. Green Environmental suggested that such a test could be required to be repeated periodically, perhaps every five years.

Response

No changes were made in response to this comment. The requirements in Chapter 115, Subchapter F, Division 3 do not require a discrete flare performance test to demonstrate compliance with the requirements in 40 CFR §60.18. The monitoring requirements in §115.544(b)(2)(E) are intended to demonstrate compliance with the minimum net heating value requirements in 40 CFR §60.18(c)(3)(ii). The commission does not agree that a one-time or periodic discrete flare performance test is appropriate to satisfy the intended purpose of the monitoring requirements in §115.544(b), which is to serve as an ongoing demonstration of compliance with the minimum net heating requirements of 40 CFR §60.18. While the commentor is correct that the EPA has routinely allowed discrete flare tests under 40 CFR §60.18 as a demonstration of compliance under various regulations, that does not automatically make it appropriate for the purposes of this rulemaking. The nature of degassing tanks and vessels

makes the streams sent to a flare being used as a control device highly variable from situation to situation. A discrete flare test is not sufficient to ensure that the flare will perform adequately at subsequent degassing events because the flare test is predominately an evaluation of the stream sent to the flare that changes with each degassing event.

Comment

ProAct requested confirmation that §115.544(b)(2)(F) would also include thermal oxidizers if a control efficiency test is not performed according to §115.542(a)(1).

Response

The commission agrees that if a thermal oxidizer is not operated in compliance with the requirement in §115.542(a)(1) then the thermal oxidizer must be operated in compliance with the requirement in §115.542(a)(4) and must comply with the monitoring requirement in §115.544(b)(2)(F).

Comment

TCC suggested deleting the term *continuously* in §115.544(b)(2)(F)(ii) to be consistent with the requirement to monitor at least once per hour.

Response

The commission agrees with the comment and the word *continuously* has been deleted from §115.544(b)(2)(F)(ii). Additionally, in response to comments, adopted §115.544(b)(2)(F) requires the owner or operator to monitor the exhaust gas VOC concentration within one hour after beginning the degassing operation. Adopted subparagraph (F) also requires the VOC concentration measurement to be one-hour test runs using one of the methods listed in clauses (i) or (ii).

Comment

Green Environmental requested the commission clarify if the term *thermal oxidizer* includes enclosed flares in which the firebox temperature is monitored continuously, and for which the manufacturer guarantees 99% VOC destruction if that temperature is maintained above a required set point. Specifically, Green Environmental questioned if the commission uses the definition in 40 CFR §60.501 that defines a flare as a thermal oxidation system using an open (without enclosure) flare.

Response

No changes were made in response to this comment. A flare is defined in §101.1(37) as an open combustion unit (i.e., lacking an enclosed combustion chamber) whose combustion air is provided by uncontrolled ambient air

around the flame and that is used as a control device; a flare may be equipped with a radiant heat shield (with or without a refractory lining) but not equipped with a combustion air control system. If the enclosed flare referenced by the commentor is equipped with a combustion air control systems then it would not be considered a flare under §101.1(37).

Comment

Green Environmental commented that the requirement in §115.544(b)(3) to measure VOC concentration once per minute for five minutes will be very difficult for a facility that is steam-cleaning tanks and is collecting bag samples in order to take LEL or TOC measurements. Green Environmental commented that it would be helpful if a statement similar to that in §115.545(3)(A) were included in §115.544(b)(3) to allow those collecting bag samples (regardless of whether Method 18 or an LEL meter is used) to only collect one sample. Alternatively, Green Environmental requested the current wording in §115.545(11)(C) be retained to clearly allow bag sampling. In addition, Green Environmental requested that §115.545(11)(E) be retained to clarify to clearly allow the use of portable analyzers.

Response

No changes were made in response to this comment. However, as discussed elsewhere in this preamble, in response to comments the commission has

revised §115.544(b)(3) to allow one five-minute integrated bag sample to determine VOC concentration. For a steam-cleaned tank, it is more likely the VOC concentration is homogeneous inside the tank due to the steam-cleaning effect. The integrated bag sampling result is likely to be the same as five separate sampling results. In addition, integrated bag sampling is allowed under Method 18. The current requirements for bag sampling in §115.545(11)(C) and portable hydrocarbon gas analyzers in §115.545(11)(E) have been integrated into Method 18 and Method 21 in the rule.

Comment

TTOG supported the commission's proposal to provide more than one option for demonstrating compliance with applicable VOC concentration standards. TTOG commented that the option in §115.544(b)(4)(A) is substantially reproduced from current tank degassing rules in §115.542(a)(6) and (b)(5). Although this condition would be unreasonably burdensome if required after all degassing operations, TTOG believed that it should be retained as one of multiple compliance demonstration options consistent with the structure of proposed §115.544(b)(4).

Response

The commission appreciates the support and is retaining the requirements in §115.544(b)(4)(A).

Comment

EPA recommended deleting the requirements in §115.544(b)(4)(A) that the percent LEL measurements be expressed as methane. EPA commented that since LEL is expressed as a percentage, a comparison to methane is not necessary and may be confusing.

Response

The commission agrees with the EPA's comment and has deleted the requirement that the percent LEL measurements be expressed as methane in this section and in all other sections in this division.

Comment

Green Environmental commented that the requirement in §115.544(b)(4)(A) to continue measuring VOC concentration every 12 hours is unworkable for a tank that is to be cleaned and placed into another service or a barge that is to be cleaned and sent on its way. Green Environmental commented that while the rule does state that this requirement applies while venting to the atmosphere, it is not clear that these measurements are not required and will actually delay normal operations. Green Environmental suggested adding a statement that clarifies that this requirement is suspended if the tank or vessel is closed or put back into chemical service.

Response

No changes were made in response to this comment. The monitoring requirements in §115.544(b)(4)(A) apply while the tank or vessel is venting to the atmosphere without control. A tank or vessel that is closed and returned to service would not be venting to the atmosphere without control and would not be required to continue to comply with the monitoring requirements in §115.544(b)(4)(A). In addition, the commission is adopting §115.544(b)(4)(A)(iii) to allow the suspension of VOC monitoring if the VOC concentration inside the tank or vessel is less than 6,800 ppmv, expressed as methane or 10% of the LEL. The commission does not agree that the suggested change is necessary.

Comment

ProAct suggested the commission clarify that the concentration measurements required in §115.544(b)(4)(A) are required to be done using the methodology described in §115.544(b)(3).

Response

No changes were made in response to this comment. The commission does not agree that the VOC concentration or percent LEL measurements required in §115.544(b)(4) need to be taken using the procedure described

in §115.544(b)(3). Once the tank or vessel has been vented to the atmosphere without control for 12 hours there is no reason to anticipate that there will be enough residual liquid remaining in the tank or vessel to cause the VOC concentration to change substantially within five minutes.

Comment

TTOG commented that various provisions of the proposal (including compliance demonstration options in §115.544(b)(4)(A) and (C)) use the phrase *vent to the atmosphere*, or a derivation, in a way that is ambiguous and could create unintended compliance difficulty for floating roof tanks. TTOG urged the commission to provide an appropriate clarification.

Response

No changes were made in response to this comment. For the purpose of this rule, the ~~The~~ commission uses the phrase *vented to the atmosphere without control* to describe a tank or vessel that is either mechanically vented to the atmosphere using an air-moving device or passively vented to the atmosphere without an air-moving device through vacuum breaker vents or open manways without sending VOC vapors to a control device during the degassing operation. ~~This phrase is not intended to describe standing loss emissions from a floating roof storage tank.~~

Comment

TxOGA commented that §115.544(b)(4)(A) requires monitoring every 12 hours while venting to the atmosphere. TxOGA stated that the mechanical ventilation of a degassed tank may be discontinued overnight when a work crew leaves, and monitoring will not occur during that time, which could exceed 12 hours. TxOGA requested the rule specify that the 12-hour measurements are only required while mechanically venting to the atmosphere. TxOGA added that based on API Technical Report 2568 no emissions will occur from sundown to sunrise due to cooling effects on the vapor space air would flow into the tank as the vapor space contracts.

Response

No changes were made in response to this comment. The monitoring requirements in §115.544(b)(4)(A) apply while the tank or vessel is venting to the atmosphere without control. For the purpose of this rule, the ~~The~~ commission uses the phrase *vented to the atmosphere without control* to describe a tank or vessel that is either mechanically vented to the atmosphere using an air-moving device or passively vented to the atmosphere without air-moving device through vacuum breaker vents or open manways without sending VOC vapors to a control device during the degassing operation. ~~This phrase is not intended to describe standing loss~~

~~**emissions from a floating roof storage tank.**~~ **A tank or vessel that is closed would not be venting to the atmosphere without control and would therefore not be required to continue to comply with the monitoring requirements in §115.544(b)(4)(A). In addition, the commission is adopting §115.544(b)(4)(A)(iii) to allow the suspension of VOC monitoring if the VOC concentration inside the tank or vessel is less than 6,800 ppmv, expressed as methane or 10% of the LEL. The commission does not agree that the suggested change is necessary.**

Comment

ProAct commented that once the VOC concentration inside the tank or vessel is less than 1% of the LEL there should be no concern about the vapor concentration increasing again. ProAct suggested the commission revise the requirement in §115.544(b)(4)(B) to state that the storage tank, transport vessel, or marine vessel can be vented to the atmosphere without control for the remainder of the degassing or cleaning operation and no further VOC measurements are required if the VOC concentration inside the tank or vessel is less than 1% of the LEL or less than 500 ppmv, expressed as methane in accordance with §115.541 and §115.542.

TTOG supported what it perceives as the principle behind the proposed option in §115.544(b)(4)(B), that a single VOC concentration measurement at a level significantly

lower than the required standard provides the same verification that the standard will continue to be met as would five consecutive measurements at the level of the standard. TTOG suggested expanding §115.544(b)(4)(B) so that it can be invoked if any measurement, not necessarily one taken while the vapors are routed to a control device, meets the requisite threshold and to specify a threshold expressed in parts per million. TTOG commented that data collected in complying with current degassing rules demonstrate that any single VOC concentration measurement below 17,000 ppmv, expressed as methane provides the same verification as five consecutive measurements below 34,000 ppmv.

TxOGA commented that §115.544(b)(4)(B) allows for VOC measurements to be discontinued if the VOC concentration inside the tank or vessel is less than 1% of the LEL. TxOGA commented that after controlled degassing it should only be necessary to take VOC measurements until the tank is cleaned to safe entry levels. TxOGA requested that the 1% LEL threshold be revised to 10% LEL.

Response

In response to comments, the commission has revised §115.544(b)(4)(B) to specify that the tank or vessel can be vented to the atmosphere without control for the remainder of the degassing operation, and no further VOC measurements are required if the VOC concentration is less than 6,800

ppmv, expressed as methane or 10% of the LEL. The 12-hour monitoring data provided in public comments did not show VOC concentrations increasing above 34,000 ppmv after the tank or vessel was vented to the atmosphere without control. The commission has determined that if the threshold is set at 6,800 ppmv, expressed as methane or 10% of the LEL, it is unlikely that the VOC concentration will increase above 34,000 ppmv, expressed as methane or 50% of the LEL. In addition, to comply with the OSHA confined space entry standard, the tank or vessel must be degassed to 10% of the LEL in order to send people into the tank for cleaning.

Comment

ProAct commented that it understands §115.544(b)(4)(C) to mean that if the tank or vessel is measured at least one hour but no more than two hours after the owner or operator stops routing VOC vapors to the control device and is less than 34,000 ppmv or 50% of LEL expressed as methane, then no further VOC measurements will be required because it has been proven that the VOC will not increase again. ProAct commented that it does not believe this to be true. ProAct commented that if product, sludge, or rust scale is still in the tank and tank cleaning begins or continues after this point then it is believed that the VOC levels will likely increase again until the product, sludge, or rust scale has been adequately removed. ProAct commented that this would be similar to the previous option of using four vapor volumes to determine compliance when residual

product, sludge, or rust scale still remains in the tank.

Response

The commission agrees that the VOC concentration inside the tank or vessel could increase above 34,000 ppmv or 50% of the LEL until the remaining product, sludge, or rust scale has been adequately removed. The proposed option may not provide adequate assurance the VOC concentration inside the tank or vessel will not continue to rise after the time period specified in §115.544(b)(4)(C). Therefore, in response to this comment, the commission is not adopting the alternative monitoring option proposed in §115.544(b)(4)(C).

Comment

TTOG supported the compliance demonstration option in §115.544(b)(4)(C) that allows for a single VOC concentration measurement to be taken one to two hours after degassing is concluded. TTOG commented that §115.544(b)(4)(C)(iii) should be revised to state that if the VOC concentration measured inside the tank or vessel exceeds the applicable concentration limit in §115.542(b), the VOC vapors from the tank or vessel must be routed to the control device until the VOC concentration (as measured either before the inlet to the control device or inside the vapor space) meets the applicable concentration limit in §115.542(b) and the owner or operator demonstrates compliance

with the conditions of subparagraph (C).

Response

No changes were made in response to this comment. The commission appreciates the support and commentor's suggested revisions. However, in response to concerns that the VOC concentration inside the tank or vessel could increase above 34,000 ppmv or 50% of the LEL until the remaining product, sludge, or rust scale has been adequately removed, the commission is not adopting the alternative monitoring option proposed in §115.544(b)(4)(C).

Comment

TxOGA commented that the one to two-hour window on the measurements required in §115.544(b)(4)(C)(ii) is very narrow for a variable field activity like degassing, and if the tank is not venting then there seems to be no purpose for the two-hour limit. TxOGA requested the two-hour limit be removed from the rule. TxOGA also stated for many tanks and degassing controls design, it is not feasible to sample inside the tank without it being opened (vented), and if the commission is referring to mechanical ventilation in this case then the rule should be clarified.

Response

No changes were made in response to this comment. The commission appreciates the comment. However, in response to concerns that the VOC concentration inside the tank or vessel could increase above 34,000 ppmv or 50% of the LEL until the remaining product, sludge, or rust scale has been adequately removed, the commission is not adopting the alternative monitoring option proposed in §115.544(b)(4)(C).

Comment

TCC suggested revising §115.544(c) to add language to clarify that a previous performance test conducted in compliance with this section may be used to satisfy the testing requirements of this provision. TCC also requested the commission add language in §115.545 specifying that a previous test conducted in compliance with this section may be used to satisfy the testing requirements of this provision.

Response

No changes were made in response to this comment. The commission agrees that a previous performance test conducted in compliance with §115.545 is valid to satisfy the testing requirement of this division. The requirements in §115.544(c) do not require a new performance test to be conducted unless the control device is modified in a way that could reasonably be expected to decrease the control efficiency of the device.

Comment

ProAct commented that it understands §115.544(c)(1) to mean that if §115.542(a)(2) - (4) is being used to comply then this does not apply. Additionally, ProAct commented that as written this requirement is interpreted to mean that a complete new, and costly, control efficiency test would be required. ProAct commented that confirmation of control efficiency could be accurately confirmed by the same methods described in the MSS Permits. ProAct requested §115.544(c)(1) be modified to allow the use of stain tube indicators specifically designed to measure VOC concentration, provided a hot air probe or equivalent device is used to prevent error, and three sets of concentration measurements are made and averaged; portable VOC analyzers meeting the requirements of Method 21 are also acceptable for this documentation.

Response

No changes were made in response to this comment. The commission agrees that §115.544(c)(1) only applies to sources electing to use the compliance option in §115.542(a)(1). The commission does not agree that stain tube indicators are an appropriate monitoring method for this rule. Stain tubes are not an approved EPA stack test methodology and not accurate enough to be a substitute for an initial control efficiency demonstration.

Comment

TCC commented §115.544(c)(1) specifies that a control device must be retested within 60 days after any major modification when the real intent would seem to be that this is a deadline after which the control device should not be used for purposes of complying with this rule until it has been retested. TCC suggested revising §115.544(c) to state that for a control device used to comply with the requirements in §115.542(a)(1), an initial control efficiency demonstration must be conducted in accordance with the approved test methods in §115.545, and the device must be retested following any modification that could reasonably be expected to negatively affect the efficiency of a control device. TCC suggested the retest should be completed within 60 days following a modification or any time prior to reuse of the control device if retesting is not accomplished within the 60-day retest time period.

Response

The commission agrees with the commentor. In response to this comment, the commission has revised §115.544(c)(1) to require an initial control efficiency demonstration to be conducted in accordance with the approved test methods in §115.545 and require the device to be retested after any modification that could reasonably be expected to decrease the efficiency of a control device within 60 days after the modification or before being used

to comply with the requirements in §115.542(a)(1), whichever is longer.

Comment

TxOGA suggested that the testing requirements in §115.544(c)(1) should be an initial compliance demonstration by the owner of the equipment, plus another demonstration within 60 days after any modification that could reasonably be expected to affect the efficiency of a control device.

TTOG suggested revising §115.544(c)(1) so that the requirement to retest 60 days after any modification only apply to a stationary control device. TTOG also stated that the tank operator cannot know whether a third party's portable control device has been modified since its last test and thus cannot reasonably assure compliance.

Response

No changes were made in response to these comments. Compliance with applicable rules is the responsibility of the affected owner or operator even if the work is performed by a third-party contractor. The fact that a company has elected to contract out work to a third party is not a justification for providing a relaxation of the rule requirements. The commission expects that companies verify their contractor's ability to provide compliant services as part of due diligence during negotiations.

Comment

ProAct commented that it understands §115.544(c)(2) to mean that if §115.542(a)(2), (3), or (4) is being used then the periodic testing requirements in §115.544(c)(2) do not apply.

Response

The commission agrees that the periodic testing requirement in §115.544(c)(2) does not apply to a portable control device used to comply with §115.542(a)(2) - (4).

Comment

TTOG requested deletion of the requirement in §115.544(c)(2) to periodically retest portable control devices. TTOG commented that control devices are already required to demonstrate control efficiency initially under §115.544(c)(1) and maintain adequate control efficiency under §115.542(a)(1) and there is no indication that control efficiency would meaningfully decrease over a device's useful life.

Response

The commission respectfully disagrees with the commentor's assertion that control efficiency will not decrease over the life of the equipment. Such an

assumption is counter-intuitive given the complex nature of the pollution control equipment used to comply with this rule. Pollution control equipment is subject to normal wear and potential malfunctions that could affect the control efficiency over time. Portable equipment could be subject to greater than normal wear as result of numerous relocations and potential damage during transition. While the adopted rule includes monitoring requirements to ensure proper operation of the control equipment on an ongoing basis, the periodic testing provisions in the adopted rule provide an actual demonstration that the equipment is still meeting the required control efficiency without placing an undue burden on the owner or operator. Furthermore, the adopted rule does provide an option for the owner or operator to monitor the outlet VOC concentration of the control device in lieu of performing any control efficiency testing.

Comment

RSI commented that all combustion devices are not treated equally under this rule revision. RSI commented that flares have the least requirements for testing and monitoring and appear to only need supplemental fuel monitoring to comply. RSI commented that thermal oxidizers are exempt from periodic control efficiency demonstrations if the temperature is maintained at greater than 1400 degrees Fahrenheit with a 0.5 second residence time. RSI commented that in California and

New Jersey engines are allowed to use an air fuel controller to maintain a stoichiometric operation that ensures the emissions to be under 50 ppmv, expressed as methane. RSI requested that engines to be exempted from periodic control efficiency demonstrations if a Phoenix oxygen sensor control feedback loop controller is installed and operating. RSI stated that if engines are not allowed the same exemption as thermal oxidizers, all combustion devices should have the same monitoring and sampling conditions and no technology should be exempted from source testing and monitoring.

Response

The adopted rule establishes monitoring and testing requirements appropriate for the particular type of control technology. The minimum temperature and residence time provisions for thermal oxidizers are well established and recognized operating conditions that ensure the device will meet the required control efficiency. The monitoring requirements in §115.544 for this type of control equipment are designed to demonstrate that the equipment is meeting the required operating condition; therefore, the need for an initial or periodic test to demonstrate control efficiency is unnecessary. These operating conditions are not established for an internal combustion engine. It would be arbitrary for the commission to require all control equipment to perform the same testing as an internal combustion engine regardless of the engineering and scientific principles that the

technology is based upon.

In addition, internal combustion engines reduce VOC emissions by combustion and by catalytic oxidation through a catalytic converter. A catalytic converter converts unburned hydrocarbon from the internal combustion engine to carbon dioxide and water. Some internal combustion engines are equipped with an oxygen sensor to regulate the air fuel ratio to promote combustion; however, the oxygen sensor does not monitor the performance of the catalytic converter. Catalyst poisoning could occur when the catalytic converter is exposed to exhaust-containing substances that coat the working surfaces, encapsulating the catalyst so that it cannot contact and treat the exhaust. Periodic testing is warranted to ensure the proper operation of an engine and catalytic converter over a longer period of operation. The limited test data provided by the commentor does not provide an adequate justification for the commission to waive the periodic testing requirements for all engines used as control devices for this rulemaking.

However, in response to the commentor's concerns about overly burdensome requirements for internal combustion engines used as control equipment for the rule, the commission has reevaluated the monitoring

requirements for engines and for other control devices that the owner or operator elects to comply with the VOC concentration limit in §115.542(a)(4). Since the performance of the control device should not change dramatically hour to hour, hourly monitoring could be burdensome to the control device operator. Therefore, the commission has revised the rule to require one exhaust gas VOC concentration measurement within one hour after beginning the degassing operation; the VOC concentration measurement must be a one-hour test run. By monitoring within one hour of the start of the operation, the exhaust gas concentration measured should reflect the VOC concentration is at its highest concentration, ensuring the control device will meet the VOC concentration limit in §115.542(a)(4) throughout the degassing operation. In addition, in response to these comments, the commission has added §115.544(b)(2)(I) specifying that for an internal combustion engine, the owner or operator shall continuously monitor the engine exhaust gas oxygen content throughout the degassing operation. The commission is also adopting §115.546(a)(2)(I) requiring the owner or operator to maintain records of the continuous engine exhaust gas oxygen content monitoring required in §115.544(b)(2)(I) if an internal combustion engine is used to comply with this division.

Comment

TxOGA suggested revising §115.544(c)(2) to require testing every 60 months for portable control devices by the owner of the equipment except for thermal oxidizers that meet certain temperature and combustion residence time requirements.

Response

No changes were made in response to this comment. As discussed elsewhere in this RESPONSE TO COMMENTS section, compliance with applicable rules is the responsibility of the affected owner or operator even if the work is performed by a third-party contractor. The rule does not prohibit the third-party contractor from performing the required testing and providing the regulated owner or operator with a copy of the documentation. Companies are free to negotiate such agreements with the contractors; however, the commission holds the regulated entity accountable for compliance with the rule. Additionally, as discussed elsewhere in this RESPONSE TO COMMENTS section, directly applying a mandatory requirement on the third-party contractors performing degassing services would be an expansion of the rule applicability and these newly affected parties would not have the opportunity to comment on such a change.

Comment

TxOGA requested that the exception for thermal oxidizers in §115.544(c)(2) be expanded to include vapor combustors, which are not always interpreted to be thermal oxidizers.

Response

The commission agrees that thermal oxidizers and vapor combustors may not always be interpreted the same and has revised §115.544(c)(2) to include a vapor combustor if the vapor combustor combustion chamber temperature is at least 1,400 degree Fahrenheit, and the flow rate of the VOC vapors routed to the device is limited to assure at least 0.5 second combustion chamber resident time all the time.

Comment

TCC requested the commission add §115.544(c)(4) to state that compliance demonstration testing for flares as required by §115.542(a)(2) is waived for flares that meet the installation and on-line monitoring requirements of §115.725(d).

Response

No changes were made in response to this comment. Section 115.542(a)(2) does not require compliance demonstration testing for flares; therefore, the suggested change is unnecessary.

Comment

TCC commented that for contractor-owned or leased equipment, if the contractor has conducted previous testing on the portable equipment being used at the site, then reciprocity for this contractor testing of portable control equipment should satisfy these rules concerning testing.

Response

No changes were made in response to this comment. Compliance with applicable rules is the responsibility of the affected owner or operator even if the work is performed by a third-party contractor. The rules do not preclude the owner or operator from using a performance test conducted by a third party to demonstrate compliance with the requirements in §115.544(c) as long as that test was conducted in accordance with the approved test methods in §115.545.

Section 115.545, Approved Test Methods

Comment

TTOG supported §115.545(4), allowing the use of Method 19 in connection with compliance testing for control devices; §115.545(14), allowing the use of minor modifications to approved test methods if approved by the executive director; and

§115.545(15), allowing certain other test methods to be used if approved by the executive director.

Response

The commission appreciates the support.

Comment

Green Environmental commented that the requirement in §115.545(11) to use the higher of the actual storage temperature or 95 degrees Fahrenheit appears incorrect since the applicability in §115.540(a) states that the vapor pressure determination should occur at actual storage conditions. Green Environmental suggested revising §115.545(11) to state that if the actual temperature is not known, 95 degrees Fahrenheit should be used for the vapor pressure determination, but that if the temperature is higher than 95 degrees Fahrenheit, the higher temperature should be used. Green Environmental commented that a facility should not be prohibited from using a lower actual storage temperature.

NanoVapor supported using the higher of either 95 degrees Fahrenheit or the actual storage temperature for determining true vapor pressure of VOC.

TCC requested §115.545(11) be revised to remove the requirement to use a lower bound of 95 degrees Fahrenheit to determine true vapor pressure. TCC commented that this

lower bound is substantially higher than would be expected for the actual storage temperature, unless the tank is heated. TCC added that while it is appropriate to account for the elevated temperature of a heated tank, it is completely arbitrary to impose a lower bound of 95 degrees Fahrenheit on unheated tanks. TCC commented that the specified procedure further stipulates that actual storage temperature is to be determined using the maximum monthly average temperature, rather than the average temperature of the month in which the degassing or cleaning activity takes place. TCC stated that this is a conservative approach, in that the true actual storage temperature would be lower during other months of the year, and given that the specified method of determining actual storage temperature is conservative, and a lower bound of 95 degrees Fahrenheit is arbitrary and unwarranted, the lower bound of 95 degrees Fahrenheit should be removed from the proposed rule. TCC added that, at a minimum, sites should be allowed to demonstrate that the actual storage temperature is less 95 degrees Fahrenheit.

TxOGA requested §115.545(11) be revised to remove the requirement to use the higher of 95 degrees Fahrenheit or actual storage conditions to determine true vapor pressure. TxOGA commented that Chapter 115 rules should ensure reasonable available control technology and therefore, should not be as stringent as the best available control technology requirements in the MSS permit model.

Response

The commission agrees with the comments and has revised §115.545(11). The true vapor pressure temperature can be determined by using either the measured actual temperature at the time when the tank or vessel is emptied or the maximum local monthly average ambient temperature as published by the National Weather Service. The commission understands that the true vapor pressure will vary with the temperature. If the actual storage temperature is unknown, then the maximum local monthly average ambient temperature as published by the National Weather Service can be used.

Comment

Johann Haltermann commented that the requirement in §115.545(11) to determine the true vapor pressure using American Society for Testing and Materials (ASTM) methods is onerous, especially when pure chemicals are involved given that there is sufficient published data to show the true vapor pressure at various temperatures. Johann Haltermann requested the commission allow published data, such as Antoine Coeffients, to be used to calculate the true vapor pressure of pure products (greater than 98%). Johann Haltermann requested the commission allow Raoults Law to be used to calculate the vapor pressure of simple mixtures.

Green Environmental commented that the requirement in §115.545(11) should be revised to state that true vapor pressure for petroleum products must be determined using ASTM methods referenced. Green Environmental stated it should be clear that facilities' cleaning tanks that last held downstream chemicals are allowed to use documented vapor pressure data in published literature or as developed by their companies for their chemical products.

TTOG suggested that §115.545(11) should not require actual ASTM testing for vapor pressure determinations where such determinations can be made using standard reference materials.

Response

The commission agrees with the commentors and has revised §115.545(11) to allow the true vapor pressure to be determined either by using standard reference texts or using the ASTM methods listed. This change is also consistent with other similar provisions in Chapter 115 that allow the use of vapor pressure data from standard reference texts.

Comment

NanoVapor proposed using the calculated vapor pressure and the rated VOC destruction capability of the applied control device to estimate the degassing time. NanoVapor

suggested requiring all control device operators to maintain records of these estimates, as well as actual degassing times.

Response

No changes were made in response to this comment. While the commentor's suggestions might provide beneficial information for the owner or operator of the tank or vessel being degassed, the information and associated records are not necessary to demonstrate compliance with the rule.

Comment

Johann Haltermann commented that §115.545(13) should specifically allow the use of an LEL meter on a bag sample.

Response

As discussed in the SECTION BY SECTION DISCUSSION and RESPONSE TO COMMENTS portions of this preamble, §115.544(b)(3) has been revised to allow the use of integrated bag samples for performing the VOC concentration measurements to demonstrate compliance with the limits in §115.542(b). The commission agrees that LEL meter should be allowed the same flexibility. The change to §115.544(b)(3) applies to VOC

measurements made using a Method 21 analyzer as well as an LEL meter. Section 115.545(13) includes the analyzer specifications for using an LEL meter, and §115.544(b)(3) is the appropriate location in the rule to make this change.

Section 115.546, Recordkeeping and Notification Requirements

Comment

TxOGA recommended eliminating the recordkeeping requirement in §115.546(a)(1)(C). TxOGA commented that there is no apparent environmental benefit to be gained from requiring records of the quantity of recovered VOC. TxOGA stated that it is difficult to clearly distinguish between liquid and sludge during a tank-cleaning project, and irregularities in tank floors can result in inaccurate data. TxOGA added API Technical Report 2568 does not distinguish between liquid or sludge quantity.

Response

No changes were made in response to this comment. The recordkeeping requirements in §115.546(a)(1)(C) are existing provisions that the commission did not propose to make any changes. Removing the recordkeeping requirements is beyond the commission's intended scope of the rulemaking. Additionally, the commission notes that §115.546(a)(1)(C) only requires the estimated liquid quantity of VOC, similar to the language

used in §115.546(a)(1)(B). The commission expects that the owners or operators would provide a reasonable estimate of the quantity but that an exact estimate is not needed for compliance with the rule.

Comment

TxOGA suggested that §115.546(a)(2)(G) be revised to include vapor combustors with thermal oxidizers since they are not always interpreted to be the same.

Response

As discussed elsewhere in this RESPONSE TO COMMENTS section, the commission agrees that thermal oxidizers and vapor combustors may not always be interpreted the same and has revised §115.546(a)(2)(G) to include a vapor combustor to be consistent with changes made to §115.544(b)(2)(G). A vapor combustor that is complying with the provisions in §115.544(b)(2)(G) must maintain the same records as a thermal oxidizer meeting the same monitoring conditions.

Comment

TCC commented that the recordkeeping requirements for contracted portable control equipment in §115.546(a)(4) should be the responsibility of the contractor.

Response

No changes were made in response to this comment. As discussed elsewhere in this RESPONSE TO COMMENTS section, compliance with applicable rules is the responsibility of the affected owner or operator even if the work is performed by a third-party contractor. Expanding the recordkeeping requirements to apply directly to the third-party contractors would be an expansion of the rule applicability, and these newly affected parties would not have been given the opportunity to comment on such a substantive change. Furthermore, the suggested change would undermine the commission's ability to verify compliance with the rule as the commission's investigators will need access to the records and may not be present at the site when the contractors are performing operations.

Comment

TTOG commented that requiring advance notification of degassing operations upon request in §115.546(b) is an appropriate alternative to requiring advance notifications for all degassing operations in the HGB area.

Response

The commission appreciates the support.

Comment

TxOGA suggested removing the requirement in §115.546(b) requiring advance notification of degassing operations upon request. TxOGA stated that there are other regulatory requirements for notifications of tank events and emission event notification when emissions exceed a reportable quantity per day. TxOGA added that since the commission already has the authority to request information and inspect facilities there is no purpose in restating that here.

Response

No changes were made in response to this comment. Advance notification of degassing operations will facilitate the enforcement of the rule by allowing investigators to observe the degassing operation while the tank or vessel is being degassed. Some existing notification requirements are for events that have already happened, and on-site observation is different from the records review. In addition, requiring notification to be provided only upon request eliminates unnecessary paperwork.

Section 115.547, Exemptions

Comment

TTOG suggested that a new exemption should be added to proposed §115.547 for products at temperatures for which degassing will never be necessary to achieve the

target VOC concentration in §115.542(b). TTOG commented that for some products, vapor pressure may vary above or below 0.5 psia based on the season. TTOG added that if the vapor pressure is lower than 0.5 psia under actual storage conditions at the time of degassing, then the VOC concentration in the vapor space cannot exceed 34,000 ppmv, and degassing is superfluous. Green Environmental suggested retaining the 0.5 psia exemption in §115.547 to follow the format of most Chapter 115 regulations.

Response

No changes were made in response to these comments. Section 115.540(a) clearly states that this division applies to degassing during, or in preparation of, cleaning any storage tank, transport vessel, or marine vessel containing VOC with a true vapor pressure greater or equal to 0.5 psia under actual storage conditions. If the true vapor pressure for the product is less than 0.5 psia under actual storage conditions then the requirements in this division will not apply. The commission does not agree that it is necessary to add an exemption to the rule for sources that are not currently required to comply with the rule.

Section 115.549, Compliance Schedules

Comment

Green Environmental commented that while it is understandable that the commission

views the proposed §115.544(b)(E) requirements merely as acceptable ways to demonstrate the already-required compliance with 40 CFR §60.18, time should be allowed in the compliance schedule for facilities to install instrumentation. Green Environmental commented that in EPA's regulations, continuous monitoring of flares is not required as a general rule, but discrete flare performance tests are often required; thus, it is not an immediate conclusion that the continuous monitoring requirements have been inherently required all along. Green Environmental commented that the commission has been inserting flare monitoring requirements into NSR permits for the past few years, and a compliance schedule is being allowed in the NSR permit conditions for those facilities that need to purchase or install instrumentation.

Response

The commission agrees that it is reasonable to grant additional time to the affected owners or operators if additional monitoring devices are needed to demonstrate compliance with the flare monitoring requirements in §115.5(b)(2)(E). In response to this comment, the compliance schedules in §115.549(b) and (d) have been revised to state that if the installation of additional monitoring equipment is necessary to comply with the requirements in §115.544(b)(2)(E), the owner or operator shall comply with the requirement no later than March 1, 2012, which is approximately one year after the effective date of this rulemaking. Until the monitoring

equipment necessary to demonstrate compliance with the requirements in §115.544(b)(2)(E) is installed, the owner or operator shall demonstrate compliance by using engineering calculations or other available monitoring or testing data.

Comment

Green Environmental commented that §115.549 should allow HGB area facilities time to come into compliance with modifications to the Approved Test Methods in §115.545. Green Environmental commented that since the commission is deleting §115.545(11)(c), which allows bag sampling with portable monitors, some sources will need time to invoke the new §115.545 (14) and (15) if they are to use a vapor collection procedure that they developed in order to be able to use an LEL meter in a steam-cleaning (water-laden) environment. Green Environmental commented that the rules appear to allow bag sampling only in conjunction with a Method 18 gas chromatograph analysis.

Response

No changes were made in response to this comment. The commission respectfully does not agree that additional time is needed to comply with the new §115.545(14) and (15). Existing §115.545(11)(C) and (E) regarding bag samples and portable hydrocarbon gas analyzer have been integrated into §115.545(3) and (5), respectively because that language did not provide

enough specificity to ensure appropriate use. Section 115.545(3) allows the owner or operator to collect VOC samples in bags by using the specified sampling procedure outlined in Method 18 and §115.545(5) allows the owner or operator to use Method 21 to determine the VOC concentrations as required in §115.542(b) and §115.544(b)(4).

SUBCHAPTER F: MISCELLANEOUS INDUSTRIAL SOURCES

DIVISION 3: DEGASSING ~~OR CLEANING~~ OF STORAGE TANKS, TRANSPORT VESSELS, AND MARINE VESSELS [STATIONARY, MARINE, AND TRANSPORT VESSELS]

§§115.540 - 115.542, 115.543, 115.544, 115.545, 115.546, 115.547, 115.549

STATUTORY AUTHORITY

The new and amended sections are adopted under Texas Water Code (TWC), §5.102, concerning General Powers, that provides the commission with the general powers to carry out its duties under the TWC; TWC, §5.103, concerning Rules, that authorizes the commission to adopt rules necessary to carry out its powers and duties under the TWC; TWC, §5.105, concerning General Policy, that authorizes the commission by rule to establish and approve all general policy of the commission; and under Texas Health and Safety Code (THSC), §382.017, concerning Rules, that authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The new and amended sections are also adopted under THSC, §382.002, concerning Policy and Purpose, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; and §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general,

comprehensive plan for the proper control of the state's air. The new and amended sections are also adopted under THSC, §382.016, concerning Monitoring Requirements; Examination of Records, that authorizes the commission to prescribe reasonable requirements for the measuring and monitoring of air contaminant emissions; and THSC, §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe the sampling methods and procedures to determine compliance with its rules. The new and amended sections are also adopted under Federal Clean Air Act (FCAA), 42 United States Code (USC), §§7401, *et seq.*, which requires states to submit state implementation plan revisions that specify the manner in which the national ambient air quality standard will be achieved and maintained within each air quality control region of the state.

The new and amended sections implement THSC, §§382.002, 382.011, 382.012, 382.016, and 382.017, and FCAA, 42 USC, §§7401 *et seq*.

§115.540. Applicability and Definitions.

(a) Applicability. Except as specified in §115.547 of this title (relating to Exemptions), this division applies to degassing during, or in preparation of, cleaning any storage tank, transport vessel, or marine vessel containing volatile organic compounds ~~liquids~~ with a true vapor pressure greater than or equal to 0.5 pounds per square inch

absolute under actual storage conditions. In this division, the operator of any storage tank, transport vessel, or marine vessel refers to the regulated entity performing or outsourcing the degassing ~~or cleaning~~ operation.

(1) In the Beaumont-Port Arthur area, as defined in §115.10 of this title (relating to Definitions), this division applies to any storage tank, transport vessel, or marine vessel.

(2) In the Dallas-Fort Worth area, as defined in §115.10 of this title, this division applies to any storage tank or transport vessel in Collin, Dallas, Denton, and Tarrant Counties. This division does not apply to any tank or vessel in Ellis, Johnson, Kaufman, Parker, or Rockwall Counties.

(3) In the El Paso area, as defined in §115.10 of this title, this division applies to any storage tank or transport vessel.

(4) In the Houston-Galveston-Brazoria area, as defined in §115.10 of this title, this division applies to any storage tank, transport vessel, or marine vessel.

(b) Definitions. Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §3.2, §101.1, or §115.10 of this title (relating

to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control. In addition, the following meanings apply in this division unless the context clearly indicates otherwise.

(1) **Cleaning--**The process of washing or rinsing a storage tank, transport vessel, or marine vessel, or removing ~~vapor,~~ sludge~~,~~ or rinsing liquid from a storage tank, transport vessel, or marine vessel.

(2) **Degassing**--The process of removing volatile organic compounds vapor from a storage tank, transport vessel, or marine vessel during, or in preparation of, cleaning.

(3) **Drain-dry floating roof tank**--A floating roof tank designed to completely drain its entire contents to a sump in a manner that leaves no free-standing liquid in the tank or the sump.

(4) ~~(3)~~ **Recirculation system**--A vapor-tight system that is composed of piping, ductwork, connections, flow inducing devices, and a control device. The recirculation system conducts volatile organic compounds vapor from a storage tank, transport vessel, or marine vessel to a control device and conducts the exhaust from the outlet of the control device back into the same tank or vessel. The recirculation system

does not include the storage tank, transport vessel, or marine vessel that is being degassed ~~or cleaned~~.

(5) ~~(4)~~ **Storage capacity**--The volume of a storage tank as determined by multiplying the internal cross-sectional area of the tank by the average internal height of the tank shell or the volume of a transport vessel or marine vessel as determined by the manufacturer's original design capacity.

(6) ~~(5)~~ **Storage tank**--A stationary vessel, reservoir, or container used to store volatile organic compounds. This definition does not include: components that are not directly involved in the containment of liquids or vapors; subsurface caverns or porous rock reservoirs; or process tanks or vessels.

(7) ~~(6)~~ **Vapor-tight**--A condition that exists when no component of a system has a leak greater than 500 parts per million expressed as methane measured using Method 21 (40 Code of Federal Regulations Part 60, Appendix A-7).

§115.541. Emission Specifications.

(a) All volatile organic compounds (VOC) vapors from a storage tank, transport vessel, or marine vessel subject to this division must be routed to a control device in

accordance with the requirements in §115.542 of this title (relating to Control Requirements) during degassing ~~or cleaning~~ operations unless the VOC concentration, measured in accordance with the procedure described in §115.544(b)(3) of this title (relating to Inspection, Monitoring, and Testing Requirements), is less than 34,000 parts per million by volume (ppmv) expressed as methane or 50% of the lower explosive limit.

(b) The intentional bypassing of a control device used to comply with this division is prohibited. Any visible VOC leak originating from the control device, or other associated product recovery device, must be repaired as soon as practical.

(c) No avoidable liquid or gaseous leaks, as detected by sight or sound, may originate from the degassing operation ~~or cleaning operations~~.

(d) In addition to the requirements in subsections (a) - (c) of this section, a transport vessel must be kept vapor-tight at all times until the VOC vapors are routed to a control device.

(e) In addition to the requirements in subsections (a) - (c) of this section, a marine vessel must: ~~have all cargo tank closures properly secured or maintain a negative pressure within the vessel when a closure is opened and must have all pressure or~~

~~vacuum relief valves operating within certified limits, as specified by classification society or flag state, until the VOC vapors are routed to a control device.~~

(1) have all cargo tank closures properly secured or maintain a negative pressure within the vessel when a closure is opened; and

(2) have all pressure or vacuum relief valves operating within certified limits, as specified by classification society or flag state, until the VOC vapors are routed to a control device.

(f) In addition to the requirements in subsections (a) - (c) of this section, all VOC vapors from a floating roof storage tank that is not a drain-dry floating roof storage tank must be routed to a control device as soon as practical but no later than: ~~immediately but no later than 24 hours after the tank has been emptied to the extent practical or the drain pump loses suction.~~

(1) 24 hours after the tank has been emptied to the extent practical or the drain pump loses suction for a floating roof storage tank containing VOC liquids with a true vapor pressure greater than or equal to 1.5 pounds per square inch absolute (psia) under actual storage conditions; ~~or~~

(2) 72 hours after the tank has been emptied to the extent practical or the drain pump loses suction for a floating roof storage tank containing VOC liquids with a true vapor pressure less than 1.5 psia under actual storage conditions; or~~.~~

(3) the time limit specified in a permit issued under Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification) up to a maximum of 72 hours after the tank has been emptied to the extent practical or the drain pump loses suction.

§115.542. Control Requirements.

(a) A control device used to comply with §115.541 of this title (relating to Emission Specifications) must meet one of the following conditions at all times when volatile organic compounds (VOC) vapors are routed to the device.

(1) The control device must maintain a control efficiency of at least 90% and must be operated in a manner consistent with how the device was operated during the control efficiency demonstration required in §115.544(c) of this title (relating to Inspection, Monitoring, and Testing Requirements).

(2) The control device must be a flare that is designed and operated in accordance with 40 Code of Federal Regulations §60.18(b) - (f) (as amended through December 22, 2008 (73 FR 78209)) and is lit at all times when VOC vapors are routed to the flare.

(3) The control device must be a recirculation system that does not cause the pressure inside the tank or vessel to increase by more than one inch water pressure above atmospheric pressure at any time during the degassing ~~or cleaning~~ operation.

(4) The VOC concentration at the outlet of the control device must be less than 500 parts per million by volume (ppmv) at 0% oxygen, dry basis, expressed as methane.

(b) All VOC vapors must be routed to a control device until the VOC concentration ~~before the inlet to the control device~~ is less than 34,000 ppmv expressed as methane or less than 50% of the lower explosive limit ~~expressed as methane~~. After one of the conditions has been satisfied, the tank or vessel may be vented to the atmosphere without control for the remainder of the degassing ~~or cleaning~~ operation, except as specified in §115.544(b)(4) of this title.

(c) Degassing ~~and cleaning~~ equipment must be designed and operated to prevent avoidable liquid or gaseous VOC leaks.

(d) When degassing ~~or cleaning~~ is effected through the hatches or manways of a storage tank, all lines must be equipped with fittings that make vapor-tight connections ~~and that are closed when disconnected or equipped to discharge residual VOC in the line into a closed recovery or disposal system after degassing or cleaning is complete~~.

(e) When degassing ~~or cleaning~~ is effected through the hatches of a transport vessel with a loading arm equipped with a vapor collection adapter, then pneumatic, hydraulic, or other mechanical means must be provided to force a vapor-tight seal between the adapter and the hatch. A means must be provided to minimize liquid drainage from the degassing ~~or cleaning~~ equipment when it is removed from the hatch or to accomplish drainage before such removal.

(f) When degassing ~~or cleaning~~ is effected through the hatches of a marine vessel with a loading arm equipped with a vapor collection adapter, then pneumatic, hydraulic, or other mechanical means must be provided to force a vapor-tight seal between the adapter and the hatch, or a negative pressure inside the cargo tank must be maintained. A means must be provided to minimize liquid drainage from the degassing ~~or cleaning~~

equipment when it is removed from the hatch or to accomplish drainage before such removal.

§115.543. Alternate Control Requirements.

For the owner or operator of a storage tank, transport vessel, or marine vessel subject to this division, [For all persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria areas as defined in §115.10 of this title (relating to Definitions),] alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division [(relating to Degassing or Cleaning of Stationary, Marine, and Transport Vessels)] 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.

§115.544. Inspection, Monitoring, and Testing Requirements.

(a) Inspection requirements. The following inspection requirements apply during the degassing ~~or cleaning~~ of any storage tank, transport vessel, or marine vessel subject to this division. [For all persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El

Paso, and Houston/Galveston/Brazoria areas as defined in §115.10 of this title (relating to Definitions), the following inspection requirements apply.]

(1) Inspection for visible liquid leaks, visible fumes, or significant odors resulting from volatile organic compounds [compound] (VOC) transfer operations must be conducted during each degassing ~~or cleaning~~ operation [by the owner or operator of the VOC degassing and cleaning facility].

(2) Degassing [VOC degassing] ~~or cleaning~~ through the affected transfer lines must be discontinued when a leak is observed and the leak cannot be repaired within a reasonable length of time. [The intentional bypassing of a vapor control device during cleaning or degassing is prohibited.]

(b) Monitoring requirements. The following monitoring requirements apply during the degassing ~~or cleaning~~ of any storage tank, transport vessel, or marine vessel subject to this division. Monitoring at least once every 15 minutes is sufficient to demonstrate compliance with the continuous monitoring requirements in this subsection.

(1) Any monitoring device used to comply with this subsection must be installed, calibrated, maintained, and operated according to the manufacturer's instructions.

(2) The owner or operator shall monitor any operational parameters necessary to demonstrate the proper functioning of a control device used to comply with this division at all times when VOC vapors are routed to the device.

(A) For a carbon adsorption system, the owner or operator shall continuously monitor the exhaust gas VOC concentration of any carbon adsorption system that regenerates the carbon bed directly to determine breakthrough. Alternatively, the owner or operator shall periodically monitor the exhaust gas VOC determine breakthrough and switch the exhaust gas flow to fresh carbon for any carbon adsorption system that does not regenerate the carbon bed directly, as specified by 40 Code of Federal Regulations (CFR) §61.354(d) (as amended through October 17, 2000 (65 FR 62160)), except that any monitoring must be conducted at intervals no greater than 20% of the design carbon replacement interval. For the purpose of this division, breakthrough is defined as a measured VOC concentration exceeding 100 parts per million by volume (ppmv) above background expressed as methane.

(B) For a catalytic incinerator, the owner or operator shall continuously monitor the inlet and outlet gas temperature.

(C) For a condensation system, the owner or operator shall continuously monitor the outlet gas temperature to ensure the temperature is below the manufacturer's recommended operating temperature for controlling the VOC vapors routed to the device.

(D) For a direct-flame incinerator, the owner or operator shall continuously monitor the exhaust gas temperature immediately downstream of the device.

(E) For a flare, the owner or operator shall use one of the following methods to demonstrate compliance with the requirements in 40 CFR §60.18 (as amended through December 22, 2008 (73 FR 78209)). ~~:~~

(i) The owner or operator shall continuously monitor the net heating value of the gas stream ~~VOC vapors~~ routed to the flare. ~~;~~

(ii) The owner or operator shall continuously monitor the total volume of supplemental fuel added to the gas stream ~~VOC vapors~~ routed to the

flare and continuously maintain sufficient supplemental fuel to meet the minimum net heating value requirements in 40 CFR §60.18 assuming that the net heating value contribution from the degassed VOC vapor is equivalent to a level corresponding to 50% of the lower explosive limit (LEL). The owner or operator may estimate the volumetric flow rate from the tank or vessel for the purpose of this calculation if the flow rate of the degassed VOC vapor is not directly monitored. ~~assume the net heating value of the VOC vapors routed to the flare is zero; or~~

(iii) The owner or operator shall use calculations to demonstrate that for the material stored in the tank or vessel the net heating value of the gas stream ~~VOC vapors~~ routed to the flare cannot drop below the minimum net heating value requirements in 40 CFR §60.18 until the concentration of VOC in the vapors being routed to the flare is less than the concentration limits in §115.542(b) of this title (relating to Control Requirements).

(iv) If the flare is a non-assisted flare that qualifies for the provisions in 40 CFR §60.18(c)(3)(i), the owner or operator may elect to continuously monitor the hydrogen content of the gas stream routed to the flare and continuously meet the minimum 8.0% by volume hydrogen content requirement in lieu of the requirements in clauses (i) - (iii) of this subparagraph.

(F) For ~~an internal combustion engine or~~ any control device used to comply with the optional exhaust gas concentration limit in §115.542(a)(4) of this title, the owner or operator shall monitor the exhaust gas VOC concentration within one hour after beginning the degassing operation. The VOC concentration measurement must be a one-hour test run using one of the following methods: ~~at least once per hour. The hourly VOC concentration must be determined by either:~~

(i) ~~using~~ the integrated bag sampling procedure in Method 18 (40 CFR Part 60, Appendix A), §§8.2.1.1 - 8.2.1.4, and a total hydrocarbon analyzer that meets instrument and calibration specifications in Method 21; or

(ii) ~~using~~ Method 25A (40 CFR Part 60, Appendix A) to ~~continuously~~ monitor the exhaust gas VOC concentration.

(G) For a thermal oxidizer or vapor combustor, the owner or operator shall continuously monitor the combustion chamber temperature. If necessary to demonstrate compliance with subsection (c)(3) of this section, the owner or operator shall also continuously monitor the gas flow rate into the thermal oxidizer or vapor combustor to determine the combustion chamber residence time.

(H) For a recirculation system, the owner or operator shall:

(i) continuously monitor the pressure inside the tank or vessel or continuously monitor the gas flow rate at the inlet and outlet of the control device; and

(ii) monitor all components of the recirculation system, including all valves and connectors, for VOC leaks using the procedure in Method 21 (40 CFR Part 60, Appendix A-7) and begin this monitoring within one hour after beginning any degassing ~~or cleaning~~ operation. A leak is defined as a screening concentration greater than 500 ppmv above background as methane for all components.

(I) For an internal combustion engine, the owner or operator shall continuously monitor the engine exhaust gas oxygen content throughout the degassing operation.

(J) For a control device not listed in this paragraph, the owner or operator shall continuously monitor one or more operational parameters sufficient to demonstrate proper functioning of the control device to design specifications.

(3) The owner or operator shall monitor the VOC concentration ~~before the inlet of the control device~~ to demonstrate compliance with the VOC concentration or

percent LEL ~~lower explosive limit (LEL)~~ thresholds in §115.542(b) of this title and determine if the storage tank, transport vessel, or marine vessel can be vented to the atmosphere without control for the remainder of the degassing ~~or cleaning~~ operation, except as specified in paragraph (4) of this subsection. The VOC concentration must be monitored: ~~The VOC concentration must be monitored once per minute for at least five minutes and all measurements must be less than the VOC concentration limits in §115.542(b) of this title.~~

(A) once per minute for at least five minutes and all measurements must be less than the VOC concentration limits in §115.542(b) of this title; or

(B) over a five-minute period using the integrated bag sampling procedure in Method 18 (40 CFR Part 60, Appendix A) §§8.2.1.1 - 8.2.1.4 and the integrated measurement must be less than the VOC concentration limits in §115.542(b) of this title.

(4) After demonstrating compliance with the applicable VOC concentration or percent LEL thresholds in §115.542(b) of this title in accordance with paragraph (3) of this subsection, the owner or operator of any storage tank, transport vessel, or marine vessel shall comply with one of the following conditions.

(A) The VOC concentration inside the tank or vessel must be monitored once every 12 hours while venting to the atmosphere without control until five consecutive measurements collected at 12 hour intervals are measured to be less than 34,000 ppmv expressed as methane or less than 50% of the LEL ~~expressed as methane~~. The VOC concentration measurement required by paragraph (3) of this subsection may be considered the first of these five consecutive measurements.

(i) If ~~uncontrolled~~ venting to the atmosphere without control has been suspended for more than four hours, the VOC concentration inside the tank or vessel must be measured upon restart of the degassing ~~and cleaning~~ operation.

(ii) If any of the VOC concentration measurements equal or exceed 34,000 ppmv expressed as methane or 50% of the LEL ~~expressed as methane~~, the tank or vessel must be routed to the control device until the VOC concentration ~~before the inlet to the control device~~ is below 34,000 ppmv expressed as methane or less than 50% of the LEL ~~expressed as methane~~ as determined by subsection (b)(3) of this section.

(iii) If the measured VOC concentration is less than 6,800 ppmv expressed as methane or 10% of the LEL then no further VOC concentration measurements are required.

(B) The storage tank, transport vessel, or marine vessel can be vented to the atmosphere without control for the remainder of the degassing ~~or cleaning~~ operation and no further VOC measurements are required if the VOC concentration inside the tank or vessel is less than 6,800 ppmv expressed as methane or 10% ~~1%~~ of the LEL ~~expressed as methane~~ before the owner or operator stops routing the VOC vapors to a control device in accordance with §115.541 of this title (relating to Emission Specifications) and §115.542 of this title.

~~(C) Before venting the tank or vessel to atmosphere, the owner or operator shall demonstrate that the VOC concentration inside the tank or vessel will not increase above the applicable concentration limit in §115.542(b) of this title by using the following procedure.~~

~~(i) The owner or operator stops routing the VOC vapors from the degassing and cleaning operations to the control device but does not allow the VOC vapors inside the tank or vessel to vent to atmosphere.~~

~~(ii) The VOC concentration inside the tank or vessel is measured at least one hour but no more than two hours after the owner or operator stops routing VOC vapors to the control device.~~

~~(iii) If the VOC concentration measured inside the tank or vessel according to clause (ii) of this subparagraph is still below the applicable concentration limit in §115.542(b) of this title, the tank or vessel can be vented to atmosphere without control for the remainder of the degassing or cleaning operation. If VOC concentration measured inside the tank or vessel exceeds the applicable concentration limit in §115.542(b) of this title, the VOC vapors from the tank or vessel must be routed to the control device until the VOC concentration before the inlet to the control device meets the applicable concentration limit in §115.542(b) of this title and the owner or operator demonstrates compliance with the conditions of this subparagraph.~~

(5) Minor modifications to the monitoring methods specified in this section may be approved by the executive director. Monitoring methods other than those specified in this section may be used if approved by the executive director and validated by 40 CFR Part 63, Appendix A, Method 301.

(6) The sampling location for monitoring the VOC concentration as required by subsection (b)(3) of this section should be immediately before the control device or in the transfer line connecting from the tank or vessel to the control device. The owner or operator may elect to monitor the VOC concentration at a location inside

the vapor space of the tank or vessel provided the location is representative of the VOC concentration entering the control device.

(c) Testing requirements. The following testing requirements apply to the owner or operator of any storage tank, transport vessel, or marine vessel subject to the requirements in this division if a control device is used to comply with the emission specifications in §115.541 of this title.

(1) For a control device used to comply with the requirements in §115.542(a)(1) of this title, an initial control efficiency demonstration must be conducted in accordance with the approved test methods in §115.545 of this title (relating to Approved Test Methods) and the device must be retested ~~within 60 days~~ after any modification that could reasonably be expected to decrease ~~affect~~ the efficiency of a control device within 60 days after the modification or before being used to comply with the requirements in §115.542(a)(1) of this title, whichever is longer.

(2) For a portable control device used to comply with the requirements in §115.542(a)(1) of this title, a periodic control efficiency demonstration must be conducted at least once every 60 months in accordance with the approved test methods in §115.545 of this title.

(3) For a portable thermal oxidizer or vapor combustor used to comply with the requirements in §115.542(a)(1) of this title, the periodic control efficiency demonstration in paragraph (2) of this subsection will not be required if the combustion chamber temperature is at least 1,400 degrees Fahrenheit and the flow rate of the VOC vapors routed to the device is limited to assure at least a 0.5 second combustion chamber residence time at all times when the device is in use.

§115.545. Approved Test Methods.

Compliance with the requirements in this division must be determined by applying one or more of the following test methods or procedures, as appropriate.

(1) Methods 1 - 4 (40 Code of Federal Regulations (CFR) Part 60, Appendix A) must be used for determining flow rates.

(2) Methods 3, 3A, or 3B (40 CFR Part 60, Appendix A) must be used to determine exhaust gas oxygen (O_2) concentration ~~(O_2)~~ for making any O_2 corrections necessary for §115.542(a)(4) of this title (relating to Control Requirements).

(3) Method 18 (40 CFR Part 60, Appendix A) must be used for determining gaseous organic compound emissions by gas chromatography.

(A) If Method 18 is used to demonstrate compliance with the volatile organic compounds (VOC) concentration monitoring requirements in §115.542(b) of this title and §115.544(b)(4) of this title (relating to Inspection, Monitoring, and Testing Requirements), only one bag sample needs to be collected for each concentration measurement.

(B) If Method 18 is used to demonstrate compliance with the VOC concentration monitoring requirements in §115.544(b)(2)(F) of this title for an internal combustion engine or any control device used to comply with the option in §115.542(a)(4) of this title to limit exhaust concentration, the ~~hourly~~ VOC concentration must be determined by using the integrated bag sampling procedure in Method 18, §§8.2.1.1 - 8.2.1.4.

(4) Method 19 (40 CFR Part 60, Appendix A) may be used for determining exhaust gas flow rates on combustion control devices in lieu of using Methods 1 - 4.

(5) Method 21 (40 CFR Part 60, Appendix A-7) must be used for determining VOC leaks. An instrument meeting the specifications and calibration requirements in Method 21 may be used for demonstrating compliance with the VOC concentration monitoring requirements in §115.542(b) and §115.544(b)(3) and (4)

~~§115.544(b)(4)~~ of this title with the provision that the instrument response factor criteria in §8.1 of Method 21 may be determined using the average composition of the liquid in the tank rather than for each individual liquid.

(6) Method 25 (40 CFR Part 60, Appendix A) must be used for determining total gaseous nonmethane organic emissions as carbon.

(7) Methods 25A or 25B (40 CFR Part 60, Appendix A) must be used for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis.

(8) Method 27 (40 CFR Part 60, Appendix A) must be used for determining tank-truck leaks.

(9) A portable O_2 analyzer that is calibrated, maintained, and operated according to the manufacturer's instructions may be used to determine exhaust gas O_2 concentration for making any O_2 corrections necessary for §115.542(a)(4) of this title in lieu of using Methods 3, 3A, or 3B.

(10) Additional test procedures described in 40 CFR §60.503(b) - (d) (effective February 14, 1989) must be used for determining compliance for bulk gasoline terminals.

(11) True vapor pressure must be determined using standard reference texts or American Society for Testing and Materials Test Method D323, D2879, D4953, D5190, or D5191 for the measurement of Reid vapor pressure, adjusted for actual storage temperature in accordance with American Petroleum Institute Publication 2517, Third Edition, 1989. For the purposes of temperature correction, the owner or operator shall use ~~the higher of either 95 degrees Fahrenheit or~~ the actual storage temperature. Actual storage temperature of an unheated tank or vessel may be determined using the maximum local monthly average ambient temperature as reported by the National Weather Service. Actual storage temperature of a heated tank or vessel must be determined using either the measured temperature or the temperature set point of the tank or vessel.

(12) The test procedures in 40 CFR §63.565(c) or §61.304(f) must be used for determination of marine vessel vapor tightness.

(13) Lower explosive limit (LEL) detectors may be used for the percent LEL concentration measurement required by §115.542(b) and §115.544(b)(3) and (4)

~~§115.544(b)(4)~~ of this title, if the detector is calibrated and maintained according to manufacturer's specifications.

(14) Minor modifications to the test methods in this section may be used if approved by the executive director.

(15) Test methods other than those specified in this section may be used if validated by 40 CFR Part 63, Appendix A, Test Method 301 and approved by the executive director.

§115.546. [Monitoring and] Recordkeeping and Notification Requirements.

(a) Recordkeeping requirements. The [For facilities in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria areas as defined in §115.10 of this title (relating to Definitions) affected by §115.541 and §115.542 of this title (relating to Emission Specifications and Control Requirements), the] owner or operator of any volatile organic compounds ~~compound~~ (VOC) storage tank, transport vessel, or marine vessel subject to the requirements in this division [degassing or cleaning facility] shall maintain the following records on site [information at the facility] for at least two years. Any records created on or after March 1, 2009, must be maintained on site for at least five years. The owner or operator [and] shall make these

records [such information] available upon request to authorized representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution control agency with jurisdiction. [having jurisdiction in the area:]

(1) For [for] storage tank, transport vessel, or marine vessel degassing ~~or cleaning~~ operations subject to the requirements in this division, the owner or operator shall maintain records of:

(A) [a record of] the type and number of storage tanks, [all] transport vessels, [stationary VOC storage tanks,] and marine vessels that are degassed ~~or cleaned~~ [at the affected facility];

(B) the chemical name and estimated liquid quantity of VOC contained in each storage tank, transport vessel, or marine vessel prior to degassing ~~or cleaning~~;

(C) the chemical name and estimated liquid quantity of VOC removed from each storage tank, transport vessel, or marine vessel; [and]

(D) the VOC concentration or percent of lower explosive limit measurements required in §115.544(b)(3) of this title (relating to Inspection,

Monitoring, and Testing Requirements) to determine when the storage tank, transport vessel, or marine vessel can be vented to the atmosphere without control; and [after January 1, 2009, in the Houston/Galveston/Brazoria area, a record of the measurements of VOC concentration or percent of lower explosive limit from the storage tank, transport vessel, or marine vessel being degassed while the tank or vessel is vented to the atmosphere;]

(E) the VOC concentration or percent of lower explosive limit measurements required by §115.544(b)(4) of this title.

(2) For a control device used to comply with the requirements in this division, the owner or operator shall maintain records of any operational parameter monitoring required in §115.544(b)(2) of this title. These records must include, but are not limited to, the following.

(A) For a carbon adsorption system, the owner or operator shall maintain records of the VOC concentration measurements required by §115.544(b)(2)(A) of this title.

(B) For a catalytic incinerator, the owner or operator shall maintain records of the continuous temperature monitoring required in §115.544(b)(2)(B) of this title.

(C) For a condensation system, the owner or operator shall maintain records of the continuous temperature monitoring required in §115.544(b)(2)(C) of this title.

(D) For a direct-flame incinerator, the owner or operator shall maintain records of the continuous temperature monitoring required in §115.544(b)(2)(D) of this title.

(E) For a flare, the owner or operator shall maintain records of the continuous monitoring or calculations required in §115.544(b)(2)(E) of this title.

(F) For ~~an internal combustion engine or~~ any control device used to comply with the optional exhaust concentration limit in §115.542(a)(4) (relating to Control Requirements) of this title, the owner or operator shall maintain records of the ~~hourly~~ VOC concentration measurement ~~measurements~~ required in §115.544(b)(2)(F) of this title and records of the monitoring method used.

(G) For a thermal oxidizer or vapor combustor, the owner or operator shall maintain records of the continuous temperature monitoring required in §115.544(b)(2)(G) of this title. If necessary to demonstrate compliance with §115.544(c)(3) of this title, the owner or operator shall maintain records of the continuous monitoring of the gas flow rate into the thermal oxidizer or vapor combustor to determine the combustion chamber residence time.

(H) For a recirculation system, the owner or operator shall maintain records of the continuous pressure or flow rate monitoring required in §115.544(b)(2)(H)(i) of this title and records of the VOC leak monitoring required in §115.544(b)(2)(H)(ii) of this title, including the VOC measurements and the time the monitoring began.

(I) For an internal combustion engine, the owner or operator shall maintain records of the continuous engine exhaust gas oxygen content monitoring required in §115.544(b)(2)(I) of this title.

(J) For a control device not listed in this paragraph, the owner or operator shall maintain records of the continuous operational parameter monitoring required in §115.544(b)(2)(J) of this title sufficient to demonstrate proper functioning of the control device to design specifications.

[(2) for vapor control systems:]

[(A) continuous monitoring and recording of the exhaust gas temperature immediately downstream of a direct-flame incinerator;]

[(B) continuous monitoring and recording of the inlet and outlet gas temperature of a catalytic incinerator; and]

[(C) continuous monitoring and recording of the exhaust gas VOC concentration for carbon adsorption systems that contain facilities to regenerate the carbon bed directly, as defined in §115.10 of this title (relating to Definitions); or periodic monitoring of the exhaust gas VOC as specified by 40 Code of Federal Regulations §61.354(d) (effective October 17, 2000), of any carbon adsorption system that does not regenerate the carbon bed directly, to determine breakthrough;]

(3) The owner or operator shall maintain records of the results of any leak inspection and repair conducted in accordance with the requirements in §115.544(a) of this title. [provisions specified in §115.544 of this title (relating to Inspection Requirements) ; and]

(4) The owner or operator shall maintain records of any control efficiency demonstration required in §115.544(c) of this title and the results of any testing conducted in accordance with the provisions specified in §115.545 of this title (relating to Approved Test Methods). The records must contain all applicable requirements from the commission's *Sampling Procedures Manual, Chapter 14.0, Contents of Sampling Reports* (January 2003, revision one).

(5) The owner or operator shall maintain records of the manufacturer's instructions for installation, calibration, maintenance, and operation for any monitoring device used to comply with the requirements in this division.

(b) Notification requirements. In the Houston-Galveston-Brazoria area, upon request by authorized representatives of the executive director, the owner or operator of any storage tank, transport vessel, or marine vessel subject to this division shall notify the appropriate regional office of upcoming degassing ~~or cleaning~~ operations.

§115.547. Exemptions.

The following exemptions apply to the owner or operator of any storage tank, transport vessel, or marine vessel subject to this division. [For all persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria

areas as defined in §115.10 of this title (relating to Definitions), the following exemptions apply.]

(1) Any storage tank with a storage capacity of less than one million gallons is exempt from this division. After January 1, 2009, in the Houston-Galveston-Brazoria area, the storage tanks listed in subparagraphs (A) and (B) of this paragraph are no longer exempt from this division.

(A) Storage tanks with a storage capacity greater than or equal to 250,000 gallons but less than one million gallons.

(B) Storage tanks with a storage capacity greater than or equal to 75,000 gallons but less than 250,000 gallons storing materials with true vapor pressure greater than 2.6 pounds per square inch absolute.

(2) In the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, any transport vessel with a storage capacity of less than 8,000 gallons is exempt from this division.

(3) In the Beaumont-Port Arthur and Houston-Galveston-Brazoria areas, any marine vessel with a storage capacity of less than 420,000 gallons is exempt from this division.

[(1) Degassing or cleaning any storage tank, transport vessel, or marine vessel with a vapor space partial pressure less than 0.5 pounds per square inch absolute (psia) (3.4 kilo Pascals) of volatile organic compound (VOC) under actual storage conditions is exempt from the requirements of this division (relating to Degassing or Cleaning of Stationary, Marine, and Transport Vessels)].

[(2) Degassing or cleaning any transport vessel with a nominal storage capacity of less than 8,000 gallons, or any stationary VOC storage tank with a nominal storage capacity of less than 1 million gallons, or any marine vessel with a nominal storage capacity of less than 10,000 barrels (420,000 gallons), is exempt from the requirements of this division. After January 1, 2009, stationary VOC storage tanks in the Houston/Galveston/Brazoria area with a nominal storage capacity and vapor pressure of stored liquid as listed in subparagraphs (A) and (B) of this paragraph are no longer exempt from the requirements of this division.]

[(A) Storage tanks with nominal storage capacity greater than or equal to 250,000 gallons but less than 1 million gallons.]

[(B) Storage tanks with nominal storage capacity greater than or equal to 75,000 gallons but less than 250,000 gallons storing materials with true vapor pressure greater than 2.6 psia.]

(4) [(3)] Any [stationary VOC] storage tank is exempt from this division during preventative maintenance, roof repair, primary seal inspection, or removal and installation of a secondary seal, if product is not moved in or out of the storage tank, emissions are minimized, and the repair is completed within seven calendar days [, is exempt from the requirements of this division].

(5) [(4)] Any marine vessel that has sustained damage that prevents a cargo tank's opening from being properly secured, causes the onboard vapor recovery system to be inoperative, or prevents the pressure or vacuum [pressure/vacuum] relief valves from operating within certified limits as specified by classification society or flag state is exempt from the requirements in §115.541 and §115.542 [§115.541(b) and §115.542(b)] of this title (relating to Emission Specifications and Control Requirements); however, all reasonable measures must be taken to minimize emissions of volatile organic compounds. This exemption will only apply for 30 calendar days after the damage to the cargo tank is sustained [VOC emissions].

(6) [(5)] Any oceangoing, self-propelled marine vessel is exempt from [the degassing or cleaning requirements of] this division.

§115.549. [Counties and] Compliance Schedules.

(a) All affected owners or operators in [persons in the] Brazoria, Chambers, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, and Waller Counties were required to be in compliance with this division by November 15, 1996, and shall continue to comply with this division [(relating to Degassing or Cleaning of Stationary, Marine, and Transport Vessels) as required by §115.930 of this title (relating to Compliance Dates)].

(b) All affected owners or operators [persons] in Collin, Dallas, Denton, and Tarrant Counties shall be in compliance with this division as soon as practicable, but no later than May 21, 2011. [one year, after the commission publishes notification in the Texas Register of its determination that this contingency rule is necessary as a result of failure to attain the national ambient air quality standard (NAAQS) for ozone by the attainment deadline or failure to demonstrate reasonable further progress as set forth in the 1990 Amendments to the Federal Clean Air Act (FCAA), §172(c)(9).] If the installation of additional monitoring equipment is necessary to comply with the requirements in §115.544(b)(2)(E) of this title (relating to Inspection, Monitoring, and

Testing Requirements), the owner or operator shall comply with the requirements no later than March 1, 2012. Until the monitoring equipment necessary to demonstrate compliance with the requirements in §115.544(b)(2)(E) of this title is installed, the owner or operator shall demonstrate compliance by using engineering calculations or other available monitoring or testing data.

(c) All affected owners or operators [persons] in El Paso County shall be in compliance with this division as soon as practicable, but no later than one year, after the commission publishes notification in the *Texas Register* of its determination that this contingency rule is necessary as a result of failure to attain the National Ambient Air Quality Standard [NAAQS] for ozone by the attainment deadline or failure to demonstrate reasonable further progress as set forth in the 1990 Amendments to the Federal Clean Air Act, [FCAA,] §172(c)(9).

(d) All affected owners or operators [persons] in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties shall comply with the requirements in §§115.542(b), ~~§§115.542(b)(2) and (c)(2),~~ 115.544(b)(4), and 115.546(a)(1)(E) of this title (relating to Control Requirements; Inspection, Monitoring, and Testing Requirements; and Recordkeeping and Notification Requirements) [§115.542(a)(6) and (b)(5), and §115.546(1)(D) of this title (relating to Control Requirements and Monitoring and Recordkeeping Requirements)] as soon as

practicable but no later January 1, 2009. If the installation of additional monitoring equipment is necessary to comply with the requirements in §115.544(b)(2)(E) of this title, the owner or operator shall comply with the requirements no later than March 1, 2012. Until the monitoring equipment necessary to demonstrate compliance with the requirements in §115.544(b)(2)(E) of this title is installed, the owner or operator shall demonstrate compliance by using engineering calculations or other available monitoring or testing data.

SUBCHAPTER F: MISCELLANEOUS INDUSTRIAL SOURCES

DIVISION 3: DEGASSING ~~OR CLEANING~~ OF STORAGE TANKS, TRANSPORT VESSELS, AND MARINE VESSELS [STATIONARY, MARINE, AND TRANSPORT VESSELS]

[§§115.541, 115.542, 115.545]

STATUTORY AUTHORITY

The repealed sections are adopted under Texas Water Code (TWC), §5.102, concerning General Powers, that provides the commission with the general powers to carry out its duties under the TWC; TWC, §5.103, concerning Rules, that authorizes the commission to adopt rules necessary to carry out its powers and duties under the TWC; TWC, §5.105, concerning General Policy, that authorizes the commission by rule to establish and approve all general policy of the commission; and under Texas Health and Safety Code (THSC), §382.017, concerning Rules, that authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The repeals are also adopted under THSC, §382.002, concerning Policy and Purpose, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; and §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper

control of the state's air. The repeals are also adopted under THSC, §382.016, concerning Monitoring Requirements; Examination of Records, that authorizes the commission to prescribe reasonable requirements for the measuring and monitoring of air contaminant emissions; and THSC, §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe sampling methods. The repeals are also adopted under Federal Clean Air Act (FCAA), 42 United States Code (USC), §§7401, *et seq*., which requires states to submit SIP revisions that specify the manner in which the national ambient air quality standard will be achieved and maintained within each air quality control region of the state.

The adopted repeals implement THSC, §§382.002, 382.011, 382.012, 382.016, 382.017, and 382.021, and FCAA, 42 USC, §§7401 *et seq*.

[§115.541. Emission Specifications.]

[(a) For all persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria areas as defined in §115.10 of this title (relating to Definitions), the following emission specifications apply to degassing during or in preparation of cleaning.]

[(1) For all stationary volatile organic compound (VOC) storage tanks with a nominal storage capacity of one million gallons or more and after January 1, 2009, storage tanks in the Houston/Galveston/Brazoria area with a nominal storage capacity of 250,000 gallons or greater or with a nominal storage capacity of 75,000 gallons or greater storing materials with a true vapor pressure greater than 2.6 pounds per square inch absolute (psia).]

[(A) No person shall permit VOC emissions with a vapor space partial pressure greater than or equal to 0.5 psia (3.4 kilo Pascals (kPa)) under actual storage conditions unless the vapors are processed by a vapor control system.]

[(B) The vapor control system must maintain a control efficiency of at least 90%.]

[(C) When conducting degassing or cleaning operations, no avoidable liquid or gaseous leaks, as detected by sight or sound, may originate from the degassing or cleaning operations.]

[(D) The intentional bypassing of a vapor control device used during degassing or cleaning is prohibited. Any visible VOC leak originating from the

vapor control device or other associated product recovery device must be repaired as soon as practical.]

[(2) For all transport vessels, as defined in §115.10 of this title, with a nominal storage capacity of 8,000 gallons or more.]

[(A) No person shall permit VOC emissions with a vapor space partial pressure greater than or equal to 0.5 psia (3.4 kPa) under actual storage conditions unless the vapors are processed by a vapor control system].

[(B) The vapor control system must maintain a control efficiency of at least 90%.]

[(C) When conducting degassing or cleaning operations, no avoidable liquid or gaseous leaks, as detected by sight or sound, may originate from the degassing or cleaning operations.]

[(D) The intentional bypassing of a vapor control device used during degassing or cleaning] is prohibited. Any visible VOC leak originating from the vapor control device or other associated product recovery device must be repaired as soon as practical.]

[(E) All transport vessels, as defined in §115.10 of this title, must be kept vapor-tight at all times until the VOC vapors remaining in the vessel are discharged to a vapor control system.]

[(b) For all persons in the Beaumont/Port Arthur and Houston/Galveston/Brazoria areas, the following emission specifications apply to degassing during or in preparation of cleaning for all marine vessels, as defined in §101.1 of this title (relating to Definitions), that have a nominal storage capacity of 10,000 barrels (420,000 gallons) or more and contain VOC.]

[(1) No person shall degas or clean a tank that carried a VOC with a vapor partial pressure greater than or equal to 0.5 psia (3.4 kPa) unless the vapors are processed by a vapor control system.]

[(2) The vapor control system must maintain a control efficiency of at least 90%.]

[(3) When conducting degassing or cleaning operations, no avoidable liquid or gaseous leaks, as detected by sight or sound, may originate from the degassing or cleaning operations.]

[(4) The intentional bypassing of a vapor control device used degassing or cleaning is prohibited. Any visible VOC leak originating from the vapor control device or other associated product recovery device must be repaired as soon as possible.]

[(5) All marine vessels, as defined in §101.1 of this title, containing VOC must have all cargo tank closures properly secured, or maintain a negative pressure within the tank when a closure is opened, and must have all pressure/vacuum relief valves operating within certified limits as specified by classification society or flag state until the vapors are discharged to a vapor control system if the vessel is degassed or cleaned.]

[§115.542. Control Requirements.]

[(a) For all persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria areas as defined in §115.10 of this title (relating to Definitions), the following control requirements apply to stationary storage tanks and transport vessels.]

[(1) No person shall permit the degassing or cleaning of volatile organic compounds (VOC) from a stationary storage tank or transport vessel unless the vapors are processed by a vapor control system.]

[(2) When degassing or cleaning is effected through the hatches of a transport vessel with a loading arm equipped with a vapor collection adapter, then pneumatic, hydraulic, or other mechanical means must be provided to force a vapor-tight seal between the adapter and the hatch. A means must be provided to minimize liquid drainage from the degassing or cleaning device when it is removed from the hatch of any transport vessel or to accomplish drainage before such removal.]

[(3) When degassing or cleaning is effected through the hatches or manways of stationary VOC storage tanks, all lines must be equipped with fittings that make vapor-tight connections and that are closed when disconnected; or equipped to permit residual VOC in the line to discharge into a recovery or disposal system after degassing or cleaning is complete.]

[(4) Degassing and cleaning equipment must be designed and operated to prevent avoidable VOC leaks.]

[(5) In the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and until January 1, 2009, in the Houston/Galveston/Brazoria areas, vapors must be routed to the control device until a turnover of at least four vapor space volumes has occurred, or four turnovers of the vapor space under a floating roof, or the partial vapor pressure is less than 0.5 pounds per square inch absolute (psia) (19,000 parts per million by weight (ppmw), or 34,000 parts per million by volume (ppmv) expressed as methane). After one of these conditions has been satisfied, the storage tank or transport vessel may be vented to the atmosphere for the remainder of the degassing or cleaning process.]

[(6) After January 1, 2009, in the Houston/Galveston/Brazoria area, vapors must be routed to the control device until the VOC measured concentration before the inlet to the control device is less than 34,000 ppmv as methane or less than 50% of the lower explosive limit (LEL). After this condition has been satisfied, the storage tank or transport vessel may be vented to the atmosphere for the remainder of the degassing or cleaning process provided that the VOC concentration remains below 34,000 ppmv as methane or less than 50% of the LEL. The VOC concentration must be measured once every 12 hours if the storage tank or transport vessel is vented continuously to the atmosphere, and upon restart of the degassing and cleaning operation if venting to the atmosphere has been suspended for more than four hours. If any measurements of the VOC concentration equal or exceed 34,000 ppmv as methane or are equal to or greater than 50% of the LEL, the storage tank or transport vessel must

be routed to the control device until the concentration is below 34,000 ppmv as methane or less than 50% of the LEL. While venting to the atmosphere, measurements must continue until five consecutive readings of VOC concentrations collected at 12 hour intervals are measured to be less than 34,000 ppmv or less than 50% of the LEL.]

[(b) For all persons in the Beaumont/Port Arthur and Houston/Galveston/Brazoria areas, the following control requirements apply to marine vessels.]

[(1) No person shall permit the degassing or cleaning of a marine vessel containing VOC unless the vapors are processed by a vapor control system.]

[(2) When degassing or cleaning is effected through the hatches of a marine vessel containing VOC with a loading arm equipped with a vapor collection adapter, then pneumatic, hydraulic, or other mechanical means must be provided to force a vapor-tight seal between the adapter and the hatch, or a negative pressure inside the cargo tank must be maintained. A means must be provided to minimize liquid drainage from the degassing or cleaning device and line when they are removed from the hatch of any marine vessel containing VOC or to accomplish drainage before such removal.]

[(3) Degassing and cleaning equipment must be designed and operated to prevent avoidable VOC leaks.]

[(4) In the Beaumont/Port Arthur area and until January 1, 2009, in the Houston/Galveston/Brazoria area, vapors must be routed to the control device until the marine vessel is stripped VOC liquid-free and a turnover of at least four vapor space volumes has occurred, the partial vapor pressure is less than 0.5 psia (19,000 ppmw, or 34,000 ppmv expressed as methane), or the concentration of VOC is less than 20% of the LEL. After one of these conditions has been satisfied, the marine vessel may be vented to the atmosphere for the remainder of the degassing or cleaning process.]

[(5) After January 1, 2009, in the Houston/Galveston/Brazoria area, vapors must be routed to the control device until the VOC measured concentration before the inlet to the control device is less than 34,000 ppmv as methane or less than 50% of the LEL. After this condition has been satisfied, the marine vessel may be vented to the atmosphere for the remainder of the degassing or cleaning process provided that the VOC concentration remains below 34,000 ppmv as methane or less than 50% of the LEL. The VOC concentration must be measured once every 12 hours if the marine vessel is vented continuously to the atmosphere, and upon restart of the degassing and cleaning operation if venting to the atmosphere has been suspended for more than four hours. If any measurements of the VOC concentration equal or exceed 34,000 ppmv as

methane or are equal to or greater than 50% of the LEL, the marine vessel must be routed to the control device until the concentration is below 34,000 ppmv as methane or less than 50% of the LEL. While venting to the atmosphere, measurements must continue until five consecutive readings of VOC concentrations collected at 12-hour intervals are measured to be less than 34,000 ppmv or less than 50% of the LEL.]

[§115.545. Approved Test Methods.]

[For the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston/Brazoria areas as defined in §115.10 of this title (relating to Definitions), compliance with §115.541 and §115.542 of this title (relating to Emission Specifications and 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;]

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

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

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

[(5) additional test procedures described in 40 CFR §60.503(b), (c), and (d) (effective February 14, 1989) for determining compliance for bulk gasoline terminals;]

[(6) Test Method 21 (40 CFR Part 60, Appendix A) for determining volatile organic compound (VOC) leaks;]

[(7) determination of true vapor pressure using American Society for Testing and Materials (ASTM) Test Method D323-89, D2879, D4953, D5190, or D5191 for the measurement of Reid vapor pressure, adjusted for actual storage temperature in accordance with API Publication 2517, Third Edition, 1989;]

[(8) Test Method 27 (40 CFR Part 60, Appendix A) for determining tank-truck leaks;]

[(9) 40 CFR §63.565(c) (effective September 19, 1995) or 40 CFR §61.304(f) (effective October 17, 2000) for determination of marine vessel vapor tightness;]

[(10) minor modifications to these test methods approved by the executive director; or]

[(11) VOC concentration measurements required by §115.542(a)(6) and (b)(5) of this title (relating to Control Requirements) must be performed using one of the methods or measurement instruments listed in subparagraphs (A) - (F) of this paragraph.]

[(A) Test Method 21 (40 CFR Part 60, Appendix A). The instrument response factor criteria in §8.1 of ~~,~~the United States Environmental Protection Agency Method 21 may be determined using the average composition of the liquid in the tank rather than for each individual liquid.]

[(B) Test Method 18 (40 CFR Part 60, Appendix A) except that only one bag sample needs to be collected for each concentration measurement.]

[(C) Bag samples, provided the means of collecting the sample and the type of bag used are appropriate and representative of the type of space being sampled and the analytical method used to evaluate bag contents are appropriate for the concentration levels and compound types.]

[(D) Test Method 25A (40 CFR Part 60, Appendix A).]

[(E) Portable hydrocarbon gas analyzer using an appropriate detector that is effective in the concentration range being measured and calibrated with compounds of interest in each case. Analyzers must be calibrated and maintained according to manufacturer's specifications.]

[(F) Lower explosive limit detector. The detector must be calibrated and maintained according to manufacturer's specifications.]