

# Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

**To:** Commissioners **Date:** May 29, 2009  
**Thru:** LaDonna Castañuela  
Chief Clerk  
**From:** David C. Schanbacher, P.E.  
Chief Engineer  
**Subject:** Consideration of a Petition for Proposed Rulemaking  
**Docket No.:** 2009-0530-RUL  
**Rule Project No.** 2009-029-PET-NR

## Who Submitted the Petition:

Four petitions were submitted by Mr. Henry T. Hilliard, Jr. of Hilliard Emission Controls, Inc. The petitions were received on April 13 and April 16, 2009. An executive summary memorandum regarding the petition received from Mr. Hilliard on April 13, 2009, was filed with the Executive Director's Office on April 17, 2009. Mr. Hilliard submitted revisions to the petitions on May 20, 2009. Due to the overlapping issues related to all the petitions, this executive summary consolidates all the petitions and supersedes the memorandums filed on April 17, 2009, and May 15, 2009.

## What the Petitioner Requests:

For the petitions filed on April 13 and 16, 2009, the petitioner, Henry T. Hilliard, Jr., is requesting amendments to 30 Texas Administrative Code (TAC) §115.542(a)(6) and (b)(5). Current §115.542(a)(6) and (b)(5) specify that the volatile organic compound (VOC) concentration is measured before the inlet to the control device. The petitioner requests that the language "before the inlet to the control device" be removed and replaced with "in the tank." The petitioner also requests that the testing provisions in (a)(6) and (b)(5) be changed to require testing immediately upon opening the tank and continue at five-minute intervals over 30 minutes.

Another of the petitions requests the addition of new paragraphs §115.542(a)(7) and (b)(6) to specify testing requirements for tanks during degassing operations. The petitioner's suggested new (a)(7) and (b)(6) would require testing at multiple locations and different levels within the tank to ensure that no one location is more than 34,000 parts-per-million by volume (ppmv). As an alternative, the suggested new (a)(7) and (b)(6) would allow mixing by circulation, recirculation, or other means so that the tank vapors are uniform demonstrated by five minute testing over a 30 minute period. The petitioner contends that channeling is occurring during degassing and causes a false indication that tanks have been degassed in accordance with the rule. The petitioner states that hydrocarbon vapors are heavier than air, so connecting high up on the tank side or on the roof avoids heavy vapors below the connection point. The suggested rule amendments to revise §115.542 are intended to address this proposed problem. There are existing testing requirements in §115.542(a)(6) and (b)(5) that the petitioner did not address but appear to be contradictory to the suggested changes.

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Finally, the petitioner requests the addition of a new §115.544(3) to require owners or operators to notify the Texas Commission on Environmental Quality verbally or in writing at least 24 hours prior to starting any tank degassing operation, except in an emergency. If degassing were required due to an emergency, notification would be required no later than 96 hours after completion of the operation. There currently is no notification requirement in the existing rule and the petition asserts that facility owners may or may not follow the rules because there will likely be no inspection or oversight. This change proposed by the petitioner would affect the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas.

If the petitioner's original requests are approved as suggested, the proposed rule revisions would read as follows:

§115.542. Control Requirements.

(a)(1) - (a)(5) no change

(a)(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 in the tank~~ 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. Released vapor must be tested immediately upon opening of the tank and continue on 5 minute intervals for 30 minutes to ensure that the concentration of vapor released is no more than 34,000 ppmv. The tank must be secured and the control device restarted if the vapor concentration is greater than 34,000 ppmv. 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.

(a)(7) Tank vapors must be measured at multiple points around the tank at different levels to ensure that no one is more than 34,000 ppmv. Or the tank vapors can be mixed by circulation, recirculation, or other means so that the tank vapors are uniform and 6 tests over a period of 30 minutes do not exceed 34,000 ppmv. Test (sic) must be taken at approximately 5 minute intervals during the circulation. No vapor may be released from the tank that exceeds 34,000 ppmv.

(b)(1) - (b)(4) no change

(b)(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 in the tank~~ is less than 34,000 ppmv as methane or less than 50% of the

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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. Released vapor must be tested immediately upon opening of the tank and continue on 5 minute intervals for 30 minutes to ensure that the concentration of vapor released is no more than 34,000 ppmv. The tank must be secured and the control device restarted if the vapor concentration is greater than 34,000 ppmv. 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)(6) Tank vapors must be measured at multiple points around the tank at different levels to ensure that no one is more than 34,000 ppmv. Or the tank vapors can be mixed by circulation, recirculation, or other means so that the tank vapors are uniform and 6 tests over a period of 30 minutes do not exceed 34,000 ppmv. Test (sic) must be taken at approximately 5 minute intervals during the circulation. No vapor may be released from the tank that exceeds 34,000 ppmv.

§115.544. Inspection Requirements.

(1) - (2) no change

(3) Except during an emergency, the Texas Commission on Environmental Quality shall be notified verbally or in writing at least 24 hours prior to starting any tank degassing operation of tanks subject to 115.541. Such notification shall include an identification and location of the tank(s) to be degassed and the air pollution control method to be employed. If a tank degassing operation was required due to an emergency, the TCEQ shall be notified as soon as reasonably possible but no later than 96 hours after completion of the operation.

Mr. Hilliard submitted revisions to the petitions on May 20, 2009. The petition regarding §115.542(a)(6) and (b)(5) requested that the language in the current rule that the VOC concentration is measured before the inlet to the control device be revised to remove the language "before the inlet to the control device" and replaced with "in the tank". In the revised petition, Mr. Hilliard revised the language to read "before the inlet to the control device and throughout the tank." The petition for new paragraphs §115.542(a)(7) and (b)(6) to specify testing requirements for tanks during degassing operations was revised with additional language to clarify petitioner's intent. "During this 30 minute sampling period, the" was added to the front of "Test (sic) must be taken at approximately 5 minute intervals during the circulation." The words "during the circulation" of the same sentence, were changed to "of the circulated vapors." At the end of the new paragraphs, a new sentence was added stating, "The circulation must be sufficient to eliminate stagnant vapors."

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If the petitioner's revised requests are approved as suggested, the proposed rule revisions would read as follows:

§115.542. Control Requirements.

(a)(1) - (a)(5) no change

(a)(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 and throughout the tank 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. Released vapor must be tested immediately upon opening of the tank and continue on 5 minute intervals for 30 minutes to ensure that the concentration of vapor released is no more than 34,000 ppmv. The tank must be secured and the control device restarted if the vapor concentration is greater than 34,000 ppmv. 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.

(a)(7) Tank vapors must be measured at multiple points around the tank at different levels to ensure that no one is more than 34,000 ppmv. Or the tank vapors can be mixed by circulation, recirculation, or other means so that the tank vapors are uniform and 6 tests over a period of 30 minutes do not exceed 34,000 ppmv. During this 30 minute sampling period, the test (sic) must be taken at approximately 5 minute intervals of the circulated vapors. No vapor may be released from the tank that exceeds 34,000 ppmv. The circulation must be sufficient to eliminate stagnant vapors.

(b)(1) - (b)(4) no change

(b)(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 and throughout the tank 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. Released vapor must be tested immediately upon opening of the tank and continue on 5 minute intervals for 30 minutes to ensure that the concentration of vapor released is no more than 34,000 ppmv. The tank must be secured and the control device restarted if the vapor concentration is greater than

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34,000 ppmv. 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)(6) Tank vapors must be measured at multiple points around the tank at different levels to ensure that no one is more than 34,000 ppmv. Or the tank vapors can be mixed by circulation, recirculation, or other means so that the tank vapors are uniform and 6 tests over a period of 30 minutes do not exceed 34,000 ppmv. During this 30 minute sampling period, the test (sic) must be taken at approximately 5 minute intervals of the circulated vapors. No vapor may be released from the tank that exceeds 34,000 ppmv. The circulation must be sufficient to eliminate stagnant vapors.

§115.544. Inspection Requirements.

(1) - (2) no change

(3) Except during an emergency, the Texas Commission on Environmental Quality shall be notified verbally or in writing at least 24 hours prior to starting any tank degassing operation of tanks subject to 115.541. Such notification shall include an identification and location of the tank(s) to be degassed and the air pollution control method to be employed. If a tank degassing operation was required due to an emergency, the TCEQ shall be notified as soon as reasonably possible but no later than 96 hours after completion of the operation.

**Recommended Action and Justification:**

Staff does not support the petitioner's requested changes and recommends that all four original petitions and the revised petitions be denied. Many of the petitioner's suggested changes would make compliance with the rule impossible. Normally, degassing operations connect to a temporary manway plate on the side of the tank near the ground. Currently, the rule requires VOC concentrations be measured before the inlet, which is assumed to be the temporary manway. Thus, the area normally measured for VOC is near the bottom of the tank. Staff agrees with Mr. Hilliard that most of the vapors will be at the bottom of the tank. Removing the language "before the inlet to the control device" would have the opposite effect than that desired by Mr. Hilliard. The petitioner's requested change would allow the VOC concentration to be measured from any location and would not ensure that the VOC concentration in the gas stream exiting the tank was below the required concentration. Mr. Hilliard's revisions addressed this problem by not removing the language "before the inlet to the control device" from §115.542(a)(6) and (b)(5) but the additional language "and throughout the tank" causes other problems. Additional ports must be opened to measure VOC concentrations throughout the tank and will cause emissions to escape the tank.

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Additionally, the proposed requirement to test vapor concentrations at multiple locations and multiple levels within the tank in §115.542(a)(7) and (b)(6) would place an onerous and costly burden on owners or operators of storage tanks and may require retrofitting storage tanks with sampling ports specifically for this purpose. Measuring the VOC concentration of the whole tank is not technically or safely feasible. Due to VOC vapor levels, personnel entry into the tank is not possible. The number of areas that the VOC concentration can be measured from outside access points is restricted by limited ports on the tank. The opening of several ports will cause emissions to escape the tank. Measuring the VOC concentration before the inlet to the control device using the temporary manway is the most practical, safe, and technically feasible approach to accomplish the intent of §115.542(a)(6).

While staff has discussed the possible need for notification in the existing rule with TCEQ Region 12 staff, the petitioner's suggested changes affect three other areas of the state subject to the rule. The petitioner's suggested changes would also require notification for each degassing event subject to the rule, including post-notification for emergency tank degassing activities. Requiring notification for every degassing event places an unnecessary burden on the regulated community as well as on TCEQ regional staff.

**Applicable Law:**

Texas Government Code, §2001.021 establishes the procedures by which an interested person may petition a state agency for the adoption of a rule and 30 TAC §20.15 provides such procedures specific to the commission.

Other laws applicable to the rules the petition affects include Texas Water Code (TWC), §5.102, concerning General Powers, §5.103, concerning Rules, and §5.105, concerning General Policy, which authorize the commission to adopt rules necessary to carry out its powers and duties under the TWC; and Texas Health and Safety Code (THSC), §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act; THSC, §382.002, concerning Policy and Purpose, which 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, which authorizes the commission to control the quality of the state's air; and §382.012, concerning State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air.

Also, Texas Clean Air Act; §382.016, concerning Monitoring Requirements; Examination of Records, authorizes the commission to prescribe requirements for owners or operators of sources to make and maintain records of emissions measurements; and §382.021, concerning Sampling Methods and Procedures, authorizes the commission to prescribe the sampling methods and procedures.

**Affected Public:**

The proposed rule amendments to §115.542 would affect owners and operators of storage and marine tanks and degassing equipment operators and contractors located in the Houston-Galveston-Brazoria eight-hour ozone nonattainment area. The proposed change to §115.544 would affect owners and operators of storage and marine tanks in all four regions cover by the division: Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas. Staff does not have specific information to determine the number of individuals affected by this suggested rule change.

**Affected Agency Programs:**

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The Air Quality Division would be statutorily required to initiate the rulemaking if the petitions are approved. A state implementation plan revision would also be necessary if the petition requests are granted and may need to include a 110(e) review to demonstrate that the proposed change is not back sliding. If the petition regarding notification to the TCEQ is approved and the rulemaking adopted, Field Operations regional staff in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas would receive and need to process notifications for every tank degassing event subject to the rule.

**Agency Contacts:**

Danell Zawaski, Rule Project Manager, 239-2389, Air Quality Division/Stationary Source Programs  
Tim Eubank, Staff Attorney, 239-1976  
Jessica Rawlings, Texas Register Coordinator, 239-0177

Attachment: Petitions

cc: 5 copies to the Chief Clerk for distribution  
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