Issued in Austin, Texas on January 26, 1990.

TRD-9000971 Allen Eli Bell
Executive Director
Texas Air Control Board

Effective date: February 19, 1990

Proposal publication date: July 28, 1989

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

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Subchapter D. Petroleum Refining and Petrochemical Processes

Process Unit Turnaround and Vacuum-Producing Systems in Petroleum Refineries.

• 31 TAC §§115.311-115.313, 115.315-115.317, 115.319

The Texas Air Control Board (TACB) adopts new §§115.311-115.313, 115 315-115.317, and 115.319. Sections 115.315 and 115.319 are adopted with changes to the proposed text as published in the July 28, 1989, issue of the *Texas Register* (14 TexReg 3653). Sections 115.311-115.313, 115.316, and 115.317 are adopted without changes and will not be republished.

The new §115.311, concerning emission specifications, establishes the maximum level of acceptable emissions from specified sources. The new §115.312, concerning control requirements, defines the type of control or technologies required to achieve necessary emission reductions. The new §115.313, concerning alternate control requirements, enables the TACB executive director to approve substantially equivalent control technologies under specific conditions. The new §115.315, concerning testing requirements, identifies the test methods which must be used to determine compliance and enables the TACB executive director to approve minor modifications to the methods. The new §115. 316, concerning recordkeeping requirements, describes the information which must be maintained by affected facilities in order to ensure continuous compliance and improve the effectiveness of enforcement. The new §115.317, concerning exemptions, specifies the conditions necessary to qualify for exemption from certain control requirements. The new §115.319, concerning counties and compliance schedules, establishes the final compliance dates for applicable controls in specified counties. These sections are part of a series of additions to Chapter 115 proposed primarily to satisfy United States Environmental Protection Agency (EPA) requirements for Phase I of the Post-1987 State Implementation Plan revisions for ozone. TACB also has adopted a comprehensive restructuring of Chapter 115 to promote greater clarity and to eliminate inconsistencies resulting from numerous independent revisions over the past several years.

The Administrative Procedure and Texas Register Act, Texas Civil Statutes, Article 6252-13a, §5(c)(1), requires categorization of comments as being for or against a proposal. A commenter who suggested any changes in the proposal is categorized as against the proposal; a commenter who agreed with the proposal in its entirety is classified as being for the proposal. Three commenters opposed the proposal, while no one testified in support.

One individual suggested that accumulators should be controlled under rules for vacuum-producing systems. Accumulators are the collection devices associated with contact condensing process units, similar to hotwells, and therefore are already controlled by this section.

One individual recommended that specified control devices be required to achieve at least 95% efficiency while another commenter, Texas Chemical Council, objected to requiring a flare efficiency of 90%. The minimum control efficiency of devices required for vacuum-producing systems was established by guidelines published by EPA to allow the use of various control options, including catalytic incineration. While a catalytic incinerator may demonstrate very high initial reductions, catalyst efficiencies decline to approximately 90% before regeneration is necessary. Affected facilities which utilize a flare as a control device must only ensure smokeless operation. While no minimum efficiency is specified for flares, a smokeless flare is generally accepted to achieve greater than 90% destruction.

One individual recommended annual stack testing to ensure control efficiency is maintained. An initial compliance test will be required whenever new controls are implemented. Documenting the continued performance of the control equipment to design specifications, including records of critical operation parameters, should adequately ensure continued compliance. Stack testing may be required by the TACB staff at any time to confirm compliance.

Two commenters, EPA and one individual, indicated that the exemption for systems emitting less than 100 pounds per day should be deleted in order to comply with published EPA guidance documents. The proposed exemption is consistent with the existing exemptions for general vent gas streams within Regulation V. However, the removal of this exemption will be evaluated and may be considered in subsequent rulemaking.

The new sections are adopted under the Texas Clean Air Act (TCAA) §382.017, which provides the TACB with the authority to make rules consistent with the policy and purposes of the TCAA.

§115.315. Testing Requirements. For all affected persons in the counties referenced in §115.319 of this title (relating to Counties and Compliance Schedules), compliance with §115.311 of this title (relating to Emission Specifications) and §115.312 of this title (relating to Control Requirements) shall be determined by applying the following test methods, as appropriate:

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

(2) additional control device requirements for flares described in 40 Code of Federal Regulations 60.18(F);

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

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

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

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

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

§115.319. Counties and Compliance Schedules. All affected persons in Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties shall be in compliance with this undesignated head concerning process unit turnaround and vacuum-producing systems in petroleum refineries in accordance with the following schedules:

(1) all compliance schedules which have expired prior to February 1, 1990, in accordance with §115.930 of this title (relating to Compliance Dates); and

(2) all persons in Brazoria, El Paso, Galveston, or Harris Counties affected by the provisions of §115.316 of this title (relating to Recordkeeping Requirements) shall be in compliance with this section as soon as practicable but no later than December 31, 1990.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on January 26, 1990.

TRD-9000970 Allen Eli Bell
Executive Director
Texas Air Control Board

Effective date: February 19, 1990

Proposal publication date: July 28, 1990

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

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Fugitive Emission Control in Petroleum Refineries

• 31 TAC §§115.322-115.327, 115.329

The Texas Air Control Board (TACB) adopts new §§115.322-115.327 and §115.329.

Sections 115.322, 115.324, 115.325, and 115.329 are adopted with changes to the proposed text as published in the July 28, 1989, issue of the *Texas Register* (14 TexReg 3654). Sections 115.323, 115.326, and 115.327 are adopted without changes and will not be republished.

The new §115.322, concerning control requirements, defines the type of control or technologies required to achieve necessary emission reductions. The new §115.323, concerning alternate control requirements, enables the TACB executive director to approve substantially equivalent control technologies under specific conditions. The new §115.324, concerning inspection requirements, identifies the components needing inspection and the frequency they are to be inspected. The new §115.325, concerning testing requirements, identifies the test methods which must be used to determine compliance and enables the TACB executive director to approve minor modifications to the methods. The new §115.326, concerning recordkeeping requirements, describes the information which must be maintained by affected facilities in order to ensure continuous compliance and improve the effectiveness of enforcement. The new §115.327, concerning exemptions, specifies the conditions necessary to qualify for exemption from certain control requirements. The new §115.329, concerning counties and compliance schedules, establishes the final compliance dates for applicable controls in specified counties. These sections are part of a series of additions to Chapter 115 proposed primarily to satisfy United States Environmental Protection Agency (EPA) requirements for Phase I of the Post-1987 State Implementation Plan revisions for ozone. TACB also has adopted a comprehensive restructuring of Chapter 115 to promote greater clarity and to eliminate inconsistencies resulting from numerous independent revisions over the past several years.

The Administrative Procedure and Texas Register Act, Texas Civil Statutes, Article 6252-13a, §5(c)(1), requires categorization of comments as being for or against a proposal. A commenter who suggested any changes in the proposal is categorized as against the proposal; a commenter who agreed with the proposal in its entirety is classified as being for the proposal. Five commenters opposed the proposal, while no one testified in support.

Two commenters, the Sierra Club and one individual, recommended quarterly inspections of components currently examined on an annual basis such as pump seals, pipeline valves in liquid service, process drains, and elevated valves. The control technique guidelines (CTG) for fugitive emissions monitoring at petroleum refineries published by EPA establishes an annual leak inspection schedule for these components. However, more recently published guidelines concerning fugitive emissions monitoring programs for other types of sources provide for quarterly inspections of all of these components, except elevated valves. While these subsequent guidelines may be viewed as an improvement in the EPA recommended approach for fugitive monitoring, no specific additional requirements or guidance has been released which would warrant a change in programs at petroleum refineries at this time. Additional control options will be evaluated in the future and may be considered in subsequent rulemaking, if appropriate.

One commenter, EPA, indicated that any component, not just pump seals, which has any observed leaks as detected by sight, sound, or smell must be monitored. However, only those leaks determined to have emissions greater than 10,000 parts per million (ppm) must be repaired. A requirement to monitor for a volatile organic compound (VOC) leak from any component whenever a potential leak is detected by sight, sound, or smell appears reasonable except for components currently exempted because they contact process fluids containing less than 10% VOC by weight or with a true vapor pressure of 0.147 pounds per square inch absolute (psia) or less. Repairs are already required for any leak exceeding 10, 000 ppm.

One individual suggested that modifications to the monitoring schedule for a facility be approved only if a leak rate of no more than 3.0% of all valves monitored can be maintained. Guidelines for justifying modifications of the monitoring schedule for a facility are specified in §115.324(8) and require that no more than 2.0% of the monitored valves are found to be leaking.

Two commenters, Texas Chemical Council and Texas Mid-Continent Oil and Gas Association, suggested adding exemptions for certain types of valves, pumps, and compressors. The CTG for fugitive emissions monitoring at petroleum refineries published by EPA does not specifically provide exemptions for these components. However, the more recently published CTG for natural gas/gasoline processing operations does include exemptions for the types of components specified by the commenters. While these subsequent guidelines may be viewed as an improvement in the EPA recommended approach for fugitive monitoring, no specific additional requirements or guidance has been released which would warrant a change in programs at petroleum refineries at this time. Additional control options will be evaluated in the future and may be considered in subsequent rulemaking, if appropriate.

One individual recommended that exemptions based on the percent VOC in the process stream and vapor pressure be deleted. The exemption for the percent VOC in the process stream is consistent with current new source performance standard requirements for petroleum refineries. The vapor pressure exemption level was established to be consistent with the definition for leak as defined in the CTG. Subsequent rulemaking may consider whether more stringent limits should be applied.

Two commenters, EPA and one individual, opposed exempting two-inch valves from monitoring requirements. This exemption may be approved for a specific facility if emissions from these small valves represent less than 5.0% of the total emissions from all monitored components at a facility. EPA has indicated that while such an exemption may be allowed for an entire source category based on the 5.0% demonstration, the exemption cannot be approved for individual facilities. The TACB staff believes that the exemption for two-inch valves could be justified for the entire petroleum refinery source category. This change, therefore, would represent a significantly less stringent control requirement, since all small valves would be exempt even where they constituted a large part of the emissions from an individual source. Relatively few requests for the two-inch valve exemption have been received by the TACB staff. Each request must be evaluated on a case-by-case basis, with the burden of proof on the facility to document satisfaction of the 5.0% criteria. This exemption is intentionally very limited, establishing very narrow criteria and applying only to fugitive emissions monitoring programs. No stated or implied provision exists which would provide for a general exemption for an individual facility in another source category.

Two commenters, EPA and one individual, suggested removal or modification to the exemption for liquids with a true vapor pressure of 0.147 psia at 68 Degrees Fahrenheit EPA indicated that the vapor pressure limit should be lowered to 0. 044 psia to satisfy EPA guidelines for reasonably available control technology. The vapor pressure limit of 0.147 psia at 68 Degrees Fahrenheit represents a concentration of 10,000 ppm corresponding to the definition of a leak for purposes of fugitive emissions monitoring. In recent discussions with EPA, they indicated that lowering the true vapor pressure limit to 0.044 psia was recommended to compensate for operating temperatures above 68 Degrees Fahrenheit which would result in VOC concentrations well above the 10,000 ppm limit for a leak. While the rationale for this recommendation is legitimate, reducing the limit by 70% appears unnecessary. Revising the exemption to include only materials with a true vapor pressure of 0.147 psia at actual operating temperature would directly address EPA's concern and may be a reasonable alternative. This option will be evaluated in the future and may be considered in subsequent rulemaking, if appropriate.

One individual objected to the exemption for process units in a temporary non-operating status. The exemption is provided in the CTG for fugitive emissions control programs for petroleum refineries because it is unreasonable to require monitoring of components which contain no process liquids or vapors and, therefore, have no potential for leaks.

The new sections are adopted under the Texas Clean Air Act (TCAA) §382.017, which provides the TACB with the authority to make rules consistent with the policy and purposes of the TCAA.

§115.322. Control Requirements. For the counties referenced in §115.329 of this title (relating to Counties and Compliance Schedules), no person shall operate a petroleum refinery, as defined in §115.010 of this title (relating to Definitions), without complying with the following requirements.

(1) No component shall be allowed to have a volatile organic

compound (VOC) leak as defined in §115.010 of this title (relating to Definitions).

(2) All technically feasible repairs to a leaking a component, as specified in paragraph (1) of this section, shall be made within 15 days after the leak is found. If the repair of a component would require a unit shutdown which would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown.

(3) All leaking components, as defined in paragraph (1) of this section, which cannot be repaired until the unit is shut down for turnaround shall be identified for such repair by tagging. The executive director at his discretion may require early unit turnaround or other appropriate action based on the number and severity of tagged leaks awaiting turnaround.

(4) Except for safety pressure relief valves, no valves shall be installed or operated at the end of a pipe or line containing VOC unless the pipe or line is sealed with a second valve, a blind flange, a plug, or a cap. The sealing device may be removed only while a sample is being taken or during maintenance operations.

(5) Pipeline valves and pressure relief valves in gaseous VOC service shall be marked in some manner that will be readily obvious to monitoring personnel.

§115.324. Inspection Requirements. For the counties referenced in §115.329 of this title (relating to Counties and Compliance Schedules), the owner or operator of a petroleum refinery shall conduct a monitoring program consistent with the following provisions:

(1) measure yearly (with a hydrocarbon gas analyzer) the emissions from all:

(A) pump seals;

(B) pipeline valves in liquid service;

(C) process drains; and

(D) all valves elevated more than two meters above any permanent structure;

(2) measure quarterly (with a hydrocarbon gas analyzer) the emissions from all:

(A) compressor seals;

(B) pipeline valves in gaseous service; and

(C) pressure relief valves in gaseous service;

(3) visually inspect, weekly, all pump seals;

(4) measure (with a hydrocarbon gas analyzer) the emissions from any component, except those exempted by §115.327(2)-(3) of this title (relating to Exemptions), whenever a potential leak is detected by sight, sound, or smell;

(5) measure (with a hydrocarbon gas analyzer) emissions from any relief valve which has vented to the atmosphere within 24 hours;

(6) measure (with a hydrocarbon gas analyzer) immediately after repair, the emissions from any component found leaking;

(7) upon the detection of a leaking component, shall affix to the leaking component a weatherproof and readily visible tag, bearing an identification number and the date the leak was located. This tag shall remain in place until the leaking component is repaired; and

(8) the monitoring schedule of paragraphs (1)-(3) of this section may be modified as follows.

(A) After completion of the required annual and quarterly inspections for a period of at least two years, the operator of a refinery may request in writing to the Texas Air Control Board that the monitoring schedule be revised based on the percent of valves leaking. The percent of valves leaking shall be determined by dividing the sum of valves leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements. This request shall include all data that have been developed to justify the following modifications in the monitoring schedule.

(i) After two consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(ii) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(B) If the executive director of the Texas Air Control Board determines that there is an excessive number of leaks in any given process area, he may require an increase in the frequency of monitoring for that process area of the refinery.

§115.325. Testing Requirements. For all affected persons in the counties referenced in §115.329 of this title (relating to Counties and Compliance Schedules), compliance with this undesignated head concerning fugitive emission control in petroleum refineries shall be determined by applying the following test methods, as appropriate:

(1) Test Method 21 (40 Code of Federal Regulations 60, Appendix A) for determining volatile organic compound leaks. The leak detection equipment can be calibrated with methane, propane, or hexane, but the meter readout must be as parts per million by volume (ppmv) hexane;

(2) determination of true vapor pressure using the American Society of Testing and Materials Test Method D323-82 for the measurement of Reid vapor pressure, adjusted for actual operating temperature in accordance with *API Publication 2517, Third Edition*, 1989; or

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

§115.329. Counties and Compliance Schedules. All affected persons in Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties shall be in compliance with this undesignated head concerning fugitive emission control in petroleum refineries in accordance with all compliance schedules which have expired prior to February 1, 1990, in accordance with §115.930 of this title (relating to Compliance Dates).

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas on January 26, 1990.

TRD-9000969 Allen Eli Bell
Executive Director
Texas Air Control Board

Effective date: February 19, 1990

Proposal publication date: July 28, 1989

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

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Fugitive Emission Control in Synthetic Organic Chemical, Polymer, and Resin Manufacturing Processes

- **31 TAC §§115.332-115.337, 115.339**

The Texas Air Control Board (TACB) adopts new §§115.332-115.337 and 115. 339. Sections 115.332, 115.334, 115.335, 115 337, and 115.339 are adopted with changes to the proposed text as published in the July 28, 1989, issue of the *Texas Register* (14 TexReg 3657). Sections 115.333 and 115.336 are adopted without changes and will not be republished.

The new §115.332, concerning control requirements, defines the type of control or technologies required to achieve necessary emission reductions. The new §115 333, concerning alternate control requirements, enables the TACB executive director to approve substantially equivalent control technologies under specific conditions. The new §115 334, concerning inspection requirements, identifies the components needing inspection and the frequency they are to be inspected. The new §115.335, concerning testing requirements, identifies the test methods which must be used to determine compliance and enables the TACB executive director to approve minor modifications to the methods. The new §115.336, concerning recordkeeping requirements, describes the information which must be maintained by affected facilities in order to ensure continuous compliance and improve the effectiveness of enforcement. The new §115.337, concerning exemptions, specifies the conditions necessary to qualify for exemption from certain control requirements. The new §115.339, concerning counties and compliance schedules, establishes the final compliance dates for applicable controls in specified counties. These sections are part of a series of additions to Chapter 115 proposed primarily to satisfy United States Environmental Protection Agency (EPA) requirements for Phase I of the Post-1987 State Implementation Plan revisions for ozone. TACB also has adopted a comprehensive restructuring of Chapter 115 to promote greater clarity and to eliminate inconsistencies resulting from numerous independent revisions over the past several years.

The Administrative Procedure and Texas Register Act, Texas Civil Statutes, Article 6252-13a, §5(c)(1), requires categorization of comments as being for or against a proposal. A commenter who suggested any changes in the proposal is categorized as against the proposal; a commenter who agreed with the proposal in its entirety is classified as being for the proposal. Five commenters opposed the proposal, while no one testified in support.

Two commenters, Occidental Chemical Corporation and Rohm and Haas Texas Incorporated, objected to the addition of any new inspection requirements indicating they are costly and burdensome and that additional time must be provided to facilitate implementation. The proposed revisions to the monitoring schedules for the synthetic organic chemical manufacturing industry (SOCMI) would increase the frequency of inspections for pipeline valves in gaseous service and all pump seals from annually to quarterly. These changes are necessary to provide requirements consistent with published control techniques guidelines (CTG) documents as required by EPA. We recognize that a revision of current monitoring plans and a reallocation of resources may be necessary in order to comply with these additional inspection requirements. While affected facilities may not be able to be in compliance immediately, new inspection procedures should be phased into current quarterly monitoring schedules.

One commenter, EPA, indicated that any component, not just pump seals, must be monitored using a hydrocarbon gas analyzer whenever a potential leak is detected by sight, sound, or smell. A requirement to monitor for a volatile organic compound (VOC) leak from any component whenever a potential leak is detected by sight, sound, or smell appears reasonable, except for components currently exempted because they contact process fluids containing less than 10% VOC by weight. Repairs are already required for any leak exceeding 10,000 parts per million (ppm).

One commenter, EPA, suggested that a tag be affixed to a component whenever a potential leak is detected by sight, sound, or smell. The tagging requirement of the fugitive control programs is intended to identify only those components which need to be repaired. Therefore, only those components which have been measured at greater than 10,000 ppm should be tagged.

Two commenters, EPA and one individual, opposed exempting two-inch valves from monitoring requirements. This exemption may be approved for a specific facility if emissions from these small valves represent less than 5.0% of the total emissions from all monitored components at a facility. EPA has indicated that while such an exemption may be allowed for an entire source category based on the 5.0% demonstration, the exemption cannot be approved for individual facilities. The TACB staff believes that the exemption for two-inch valves could be justified for the entire SOCMI source category. This change, therefore, would represent a significantly less stringent requirement, since all small valves would be exempt even where they constituted a large part of the emissions from an individual source. Relatively few requests for the two-inch valve exemption have been received by the TACB staff. Each request must be evaluated on a case-by-case basis, with the burden of proof on the facility to document satisfaction of the 5.0% criteria. This exemption is intentionally very limited, establishing very narrow criteria and applying only to fugitive emissions monitoring programs. No stated or implied provision exists which would provide for a general exemption for an individual facility in another source category.

One commenter, EPA, suggested modification to the exemption for liquids with a true vapor pressure of 1.013 kPa at 20 Degree Centigrade to lower the limit to 0.3 kPa to satisfy EPA guidelines for reasonably available control technology. The vapor pressure limit of 1.013 kPa at 20 Degree Centigrade represents a concentration of 10,000 ppm corresponding to the definition of a leak for purposes of fugitive emissions monitoring. In recent discussions with EPA, they indicated that lowering the true vapor pressure limit to 0.3 kPa was recommended to compensate for operating temperatures above 20 Degree Centigrade which would result in VOC concentrations well above the 10,000 ppm limit for a leak. While the rationale for this recommendation is legitimate, reducing the limit by 70% appears unnecessary. Revising the exemption to include only materials with a true vapor pressure of 1.013 kPa at actual operating temperature would directly address EPA's concern and may be a reasonable alternative. This option will be evaluated in the future and may be considered in subsequent rulemaking, if appropriate.

One commenter, EPA, suggested revising the requirements for the start-up of a process unit in temporary nonoperating status to conform to the provisions established for petroleum refineries.

These changes would require: the submission of a compliance plan one month prior to start-up, rather than six months after start-up; and final compliance within three months after start-up, rather than within one year after start-up. These provisions do not require the installation of additional control equipment nor the need for extensive development time. Therefore, the recommended three-month period for implementation of a monitoring schedule appears reasonable.

Two commenters, EPA and one individual, suggested that specified exemptions for pumps and compressors apply only to pumps with mechanical seals and compressors with fluid barriers specified in the published CTG. The proposed exemptions include pumps with dual pump seals and barrier fluid systems, and both pumps and compressors with seal degassing vents and vent control systems. These types of controls are more effective in reducing emissions than those strictly exempted in the CTG. Therefore, exempting these additional components appears to be consistent with the intent of the CTG. This exemption may be clarified to include pumps with mechanical seals and compressors with fluid barrier systems.

One commenter, Texas Mid-Continent Oil and Gas Association, suggested adding a clause to the definition of "Synthetic Organic Chemical Manufacturing Process" to indicate that related requirements are not applicable to petroleum refineries. The addition of the suggested language may be incorrectly interpreted as exempting certain processes just because they are physically located within a petroleum refinery. The controls are intended to apply to the type of process as defined, regardless of location. Therefore, this change would be misleading and inappropriate.

The new sections are adopted under the Texas Clean Air Act (TCAA), §382.017, which provides the TACB with the authority to make rules consistent with the policy and purposes of the TCAA.

§115.332. Control Requirements. For the counties referenced in §115.339 of this title (relating to Counties and Compliance Schedules), no person shall operate a synthetic organic chemical, polymer, or resin manufacturing process, as defined in §115.010 of this title (relating to Definitions), without complying with the following requirements.

(1) No component shall be allowed to have a volatile organic compound (VOC) leak, as defined in §115.010 of this title (relating to Definitions).

(2) All technically feasible repairs to a leaking component, as specified in paragraph (1) of this section, shall be

made within 15 days after the leak is found. If the repair of a component would require a unit shutdown which would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown.

(3) All leaking components, as defined in paragraph (1) of this section, which cannot be repaired until the unit is shut down for turnaround shall be identified for such repair by tagging. The executive director at his discretion may require early unit turnaround or other appropriate action based on the number and severity of tagged leaks awaiting turnaround.

(4) Except for safety pressure relief valves, no valves shall be installed or operated at the end of a pipe or line containing VOC unless the pipe or line is sealed with a second valve, a blind flange, a plug, or a cap. The sealing device may be removed only while a sample is being taken or during maintenance operations.

(5) Pipeline valves and pressure relief valves in gaseous VOC service shall be marked in some manner that will be readily obvious to monitoring personnel.

§115.334. Inspection Requirements. For all affected persons in the counties referenced in §115.339 of this title (relating to Counties and Compliance Schedules), the following inspection requirements shall apply.

(1) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing process shall conduct a monitoring program consistent with the following provisions:

(A) measure yearly (with a hydrocarbon gas analyzer) the emissions from all valves elevated more than two meters above any permanent structure;

(B) measure quarterly (with a hydrocarbon gas analyzer) the emissions from all:

(i) compressor seals;

(ii) pipeline valves;

(iii) pressure relief valves in gaseous service; and

(iv) pump seals;

(C) visually inspect, weekly, all pump seals;

(D) measure (with a hydrocarbon gas analyzer) the emissions from any component, except those exempted by §115.337(2) and (3) of this title (relating to Exemptions), whenever a potential leak is detected by sight, sound, or smell;

(E) measure (with a hydrocarbon gas analyzer) emissions from any relief valve which has vented to the atmosphere within 24 hours; and

(F) measure (with a hydrocarbon gas analyzer) immediately after repair the emissions from any component that was found leaking.

(2) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing process upon the detection of a leaking component shall affix to the leaking component a weatherproof and readily visible tag, bearing an identification number and the date the leak was located. This tag shall remain in place until the leaking component is repaired.

(3) The monitoring schedule of paragraph (1)(A)-(C) of this section may be modified as follows.

(A) After completion of the required annual and quarterly inspections for a period of at least two years, the operator of a synthetic organic chemical, polymer, or resin manufacturing facility may request in writing to the Texas Air Control Board that the monitoring schedule be revised based on the percent of valves leaking. The percent of valves leaking shall be determined by dividing the sum of valves leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements. This request shall include all data that have been developed to justify the following modifications in the monitoring schedule.

(i) After two consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(ii) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(B) If the executive director of the Texas Air Control Board determines that there is an excessive number of leaks in any given process, he may require an increase in the frequency of monitoring for that process.

§115.335. Testing Requirements. For the counties referenced in §115.339 of this title (relating to Counties and Compliance Schedules), compliance with this undesignated head, concerning fugitive emission control in synthetic organic chemical, polymer, and resin manufacturing processes, shall be determined by applying the following test methods, as appropriate:

(1) Test Method 21 (40 Code of Federal Regulations 60, Appendix A) for determining volatile organic compound leaks. The leak detection equipment can be calibrated with methane, propane, or hexane, but the meter readout must be as parts per million by volume (ppmv) hexane;

(2) determination of true vapor pressure using American Society for Testing and Materials Test Method D323-82 for the measurement of Reid vapor pressure, adjusted for actual operating temperature in accordance with API Publication 2517, Third Edition, 1989; or

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

§115.337. Exemptions. For the counties referenced in §115. 339 of this title (relating to Counties and Compliance Schedules), the following exemptions shall apply.

(1) Valves with a nominal size of two inches (5.0 cm) or less are exempt from the requirements of this undesignated head, concerning fugitive emission control in synthetic organic chemical, polymer, and resin manufacturing processes, provided allowable emissions at any plant from sources affected by these sections after controls are applied with exemptions, will not exceed by more than 5.0% such allowable emissions with no exemptions. Any person claiming an exemption for valves two inches (5.0 cm) nominal size or smaller under this section shall at the time he provides his control plan also provide the following information:

(A) identification of valves or classes of valves to be exempted;

(B) an estimate of uncontrolled emissions from exempted valves and an estimate of emissions if controls were applied, plus an explanation of how the estimates were derived; and

(C) an estimate of the total volatile organic compound (VOC) emissions within the process from sources affected by this undesignated head, concerning fugitive emission control in synthetic organic chemical, polymer, and resin mmufacturing processes, after controls are applied and assuming no exemptions for small valves, plus an explanation of how the estimate was derived.

(2) Components which contact a process fluid that contains less than 10% VOC by weight are exempt from the requirements of this undesignated head, concerning fugitive emission control in synthetic organic chemical, polymer, and resin manufacturing processes.

(3) Components which contact a process liquid containing VOC having a true vapor pressure equal to or less than 0.147 pounds per square inch absolute (1.013 kPa) at 68 Degrees Fahrenheit (20 Degrees Centigrade) are exempt from the requirements of this undesignated head, concerning fugitive emission control in synthetic organic chemical, polymer, and resin manufacturing processes, if the components are inspected visually according to the inspection schedules specified within these same sections.

(4) Synthetic organic chemical, polymer, and resin manufacturing process units in a temporary nonoperating status shall submit a plan for compliance with the provisions of this undesignated head, concerning fugitive emission control in synthetic organic chemical, polymer, and resin manufacturing processes, within one month prior to start-up and be in compliance as soon as practicable but no later than three months after start-up. All synthetic organic chemical, polymer, and resin manufacturing processes affected by this paragraph shall notify the Texas Air Control Board of any nonoperating process units when they are shut down and dates of any start-ups as they occur.

(5) Processes at the same location but unrelated to the production of synthetic organic chemicals, polymers, and resins are exempt from the requirements of this undesignated head, concerning fugitive emission control in synthetic organic chemical, polymer, and resin manufacturing processes.

(6) The following items are exempt from the monitoring requirements of §115.334 of this title (relating to Inspection Requirements):

(A) pressure relief devices connected to an operating flare header, components in continuous vacuum service, and valves that are not externally regulated (such as in-line check valves);

(B) pressure relief valves that are downstream of a rupture disc which is intact;

(C) pumps in liquid service that are equipped with mechanical seals, dual pump seals, barrier fluid systems, seal degassing vents, and vent control systems kept in good working order; and

(D) compressors that are equipped with barrier fluid systems, degassing vents, and vent control systems kept in good working order.

§115.339. Counties and Compliance Schedules. All affected persons in Harris County shall be in compliance with this undesignated head, concerning fugitive emission control in synthetic organic chemical, polymer, and resin manufacturing processes, in accordance with all compliance schedules which have expired prior to February 1, 1990, in accordance with §115.930 of this title (relating to Compliance Dates).

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas on January 26, 1990.

TRD-9000968 Allen Eli Bell
Executive Director
Texas Air Control Board

Effective date: February 19, 1990

Proposal publication date: July 28, 1989

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

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Fugitive Emission Control in Natural Gas/Gasoline Processing Operations

- **31 TAC §§115.342-115.347, 115.349**

The Texas Air Control Board (TACB) adopts new §§115.342-115.347 and §115.349. Sections 115.342, 115.344, 115.345, and 115.349 are adopted with changes to the proposed text as published in the July 28, 1989, issue of the *Texas Register* (14 TexReg 3659). Sections 115.343, 115.346, and 115.347 are adopted without changes and will not be republished.

The new §115.342, concerning control requirements, defines the type of control or technologies required to achieve necessary emission reductions. The new §115.343, concerning alternate control requirements, enables the TACB executive director to approve substantially equivalent control technologies under specific conditions. The new §115.344, concerning inspection requirements, identifies the components needing inspection and the frequency they are to be inspected. The new §115.345, concerning testing requirements, identifies the test methods which must be used to determine compliance and enables the TACB executive director to approve minor modifications to the methods. The new §115.346, concerning recordkeeping requirements, describes the information which must be maintained by affected facilities in order to ensure continuous compliance and improve the effectiveness of enforcement. The new §115.347, concerning exemptions, specifies the conditions necessary to qualify for exemption from certain control requirements. The new §115.349, concerning counties and compliance schedules, establishes the final compliance dates for applicable controls in specified counties. These sections are part of a series of additions to Chapter 115 proposed primarily to satisfy United States Environmental Protection Agency (EPA) requirements for Phase I of the Post-1987 State Implementation Plan revisions for ozone. The TACB also has adopted a comprehensive restructuring of Chapter 115 to promote greater clarity and to eliminate inconsistencies resulting from numerous independent revisions over the past several years.

The Administrative Procedure and Texas Register Act, Texas Civil Statutes, Article 6252-13a, §5(c)(1), requires categorization of comments as being for or against a proposal. A commenter who suggested any changes in the proposal is categorized as against the proposal; a commenter who agreed with the proposal in its entirety is classified as being for the proposal. Three commenters opposed the proposal, while no one testified in support.

One individual suggested that companies be required to demonstrate that all technically feasible repairs have been done to repair a leak within 15 days. The proposed rule includes all necessary requirements to provide for specified repairs to leaking components. A demonstration that all technically feasible repairs have been made may be requested at any time to verify and ensure enforceability of the rule. No revision to the rule appears warranted at this time, but more stringent requirements related to timing of repairs may be considered in future rulemaking.

One commenter, Texas Chemical Council, objected to the requirement for quarterly monitoring of pump seals and pipeline valves. The monitoring schedules in the proposed rule reflect the requirements included in the control techniques guidelines (CTG) published by EPA to define reasonably available control technology (RACT) for natural gas/gasoline processing operations.

One commenter, EPA, indicated that any component, not just pump seals, must be monitored using a hydrocarbon gas analyzer whenever a potential leak is detected by sight, sound, or smell. A requirement to monitor for a volatile organic compound (VOC) leak from any component whenever a potential leak is detected by sight, sound, or smell appears reasonable, except for components currently exempted because they contact process fluids containing less than 10% VOC by weight. Repairs are already required for any leak exceeding 10,000 parts per million (ppm).

One individual suggested that modifications to the monitoring schedule for a facility be approved only if a leak rate of no more than 3.0% of all valves monitored can be maintained. Guidelines for justifying modifications of the monitoring schedule for a facility are specified in §115.324(8) and require that no more than 2.0% of the monitored valves are found to be leaking.

Two commenters, EPA and one individual, opposed exempting two-inch valves from monitoring requirements. This exemption may be approved for a specific facility if emissions from these small valves represent less than 5.0% of the total emissions from all monitored components at a facility. EPA has indicated that while such an exemption may be allowed for an entire source category based on the 5.0% demonstration, the exemption cannot be approved for individual facilities. The TACB staff believes that the exemption for two-inch valves could be justified for the entire petroleum refinery

source category. This change, therefore, would represent a significantly less stringent requirement, since all small valves would be exempt even where they constituted a large part of the emissions from an individual source. Relatively few requests for the two-inch valve exemption have been received by the TACB staff. Each request must be evaluated on a case-by-case basis, with the burden of proof on the facility to document satisfaction of the 5.0% criteria. This exemption is intentionally very limited, establishing very narrow criteria and applying only to fugitive emissions monitoring programs. No stated or implied provision exists which would provide for a general exemption for an individual facility in another source category.

One individual objected to the exemption for components which contact a process fluid that contains less than 1.0% VOC by weight. This exemption is provided in the CTG for fugitive emissions monitoring programs for natural gas/gasoline processing operations because the fluids within the affected components do not contain enough VOC to be detected as a leak. These exempted streams are essentially the product gas which is normally more than 99% methane.

Two commenters, EPA and one individual, suggested modification to the exemption for liquids with a true vapor pressure of 1.013 kPa at 20 Degrees Centigrade to lower the limit to 0.3 kPa to satisfy EPA guidelines for RACT. The vapor pressure limit of 1.013 kPa at 20 Degrees Centigrade represents a concentration of 10,000 ppm corresponding to the definition of a leak for purposes of fugitive emissions monitoring. In recent discussions with EPA, they indicated that lowering the true vapor pressure limit to 0.3 kPa was recommended to compensate for operating temperatures above 20 Degrees Centigrade which would result in VOC concentrations well above the 10,000 ppm limit for a leak. While the rationale for this recommendation is legitimate, reducing the limit by 70% appears unnecessary. Revising the exemption to include only materials with a true vapor pressure of 1.013 kPa at actual operating temperature would directly address EPA's concern and may be a reasonable alternative. This option will be evaluated in the future and may be considered in subsequent rulemaking, if appropriate.

One individual opposed several proposed exemptions including: pressure relief valves downstream of an intact rupture disk; positive displacement pumps and pumps in liquid service equipped with specified control devices; and reciprocating compressors and compressors equipped with specified control devices. These exemptions are provided in the CTG for fugitive emissions monitoring programs for natural gas/gasoline processing operations because the affected components do not represent a significant source of VOC emissions.

The new sections are adopted under the Texas Clean Air Act (TCAA), §382.017, which provides the TACB with the authority to make rules consistent with the policy and purposes of the TCAA.

§115.342. Control Requirements. For the counties referenced in §115.349 of this title (relating to Counties and Compliance Schedules), no person shall operate a natural gas/gasoline processing operation, as defined in §115.010 of this title (relating to Definitions), without complying with the following control requirements.

(1) No component shall be allowed to have a volatile organic compound (VOC) leak, as defined in §115.010 of this title (relating to Definitions).

(2) All technically feasible repairs to a leaking component, as specified in paragraph (1) of this section, shall be made within 15 days after the leak is found. If the repair of a component would require a unit shutdown which would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown.

(3) All leaking components, as defined in paragraph (1) of this section, which cannot be repaired until the unit is shut down for turnaround shall be identified for such repair by tagging. The executive director at his discretion may require early unit turnaround or other appropriate action based on the number and severity of tagged leaks awaiting turnaround.

(4) Except for safety pressure relief valves, no valves shall be installed or operated at the end of a pipe or line containing VOC unless the pipe or line is sealed with a second valve, a blind flange, a plug, or a cap. The sealing device may be removed only while a sample is being taken or during maintenance operations.

(5) Valves and pressure relief valves in gaseous VOC service shall be marked in some manner that will be readily obvious to monitoring personnel.

§115.344. Inspection Requirements. For all affected persons in the counties referenced in §115.349 of this title (relating to Counties and Compliance Schedules), the following inspection requirements shall apply.

(1) The owner or operator of a natural gas/gasoline processing operation shall conduct a monitoring program consistent with the following provisions.

(A) measure yearly (with a hydrocarbon gas analyzer) the emissions from all valves elevated more than two meters above any permanent structure;

(B) measure quarterly (with a hydrocarbon gas analyzer) the emissions from all:

(i) compressor seals;

(ii) pipeline valves;

(iii) pressure relief valves in gaseous service; and

(iv) pump seals;

(C) visually inspect, weekly, all pump seals;

(D) measure (with a hydrocarbon gas analyzer) the emissions from any component, except those exempted by §115.347(2) and (3) of this title (relating to Exemptions), whenever a potential leak is detected by sight, sound, or smell.

(E) measure (with a hydrocarbon gas analyzer) emissions from any relief valve which has vented to the atmosphere within 24 hours at manned facilities or within 30 days at unmanned facilities;

(F) measure (with a hydrocarbon gas analyzer) immediately after repair the emissions from any component that was found leaking.

(2) The owner or operator of a natural gas/gasoline processing operation upon the detection of a leaking component shall affix to the leaking component a weatherproof and readily visible tag, bearing an identification number and the date the leak was located. This tag shall remain in place until the leaking component is repaired.

(3) The monitoring schedule of paragraph (1)(A)-(C) of this section may be modified as follows.

(A) After completion of the required annual and quarterly inspections for a period of at least two years, the operator of a natural gas/gasoline processing facility may request in writing to the Texas Air Control Board that the monitoring schedule be revised based on the percent of valves leaking. The percent of valves leaking shall be determined by dividing the sum of valves leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements. This request shall include all data that have been developed to justify the following modifications in the monitoring schedule.

(i) After two consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(ii) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(B) If the executive director of the Texas Air Control Board determines that there is an excessive number of leaks in any given process, he may require an increase in the frequency of monitoring for that process.

§115.345. Testing Requirements. For the counties referenced in §115.349 of this title (relating to Counties and Compliance Schedules), compliance with this undesignated head shall be determined by applying the following test methods, as appropriate:

(1) Test Method 21 (40 Code of Federal Regulations 60, Appendix A) for determining volatile organic compound leaks. The leak detection equipment can be calibrated with methane, propane, or hexane, but the meter readout must be as parts per million by volume (ppmv) hexane;

(2) determination of true vapor pressure using the American Society of Testing and Materials Test Method D323-82 for the measurement of Reid vapor pressure, adjusted for actual operating temperature in accordance with API Publication 2517, Third Edition, 1989; or

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

§5.349. Counties and Compliance Schedules. All affected persons in Harris County shall be in compliance with this undesignated head (concerning fugitive emission control in natural gas/gasoline processing operations) in accordance with all compliance schedules which have expired prior to February 1, 1990, in accordance with §115.930 of this title (relating to Compliance Dates).

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on January 26, 1990.

TRD-9000967 Allen Eli Bell
Executive Director
Texas Air Control Board

Effective date: February 19, 1990

Proposal publication date: July 28, 1989

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

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Subchapter E. Solvent-Using Processes

Degreasing Processes

- **31 TAC §§115.412, 115.413, 115.415-115.417, 115.419**

The Texas Air Control Board (TACB) adopts new §§115.412, 115.413, 115. 415-115.417, and 115.419. Section 115.415 and §115.419, are adopted with changes to the proposed text as published in the July 28, 1989, issue of the *Texas Register* (14 TexReg 3662). Sections 115.412, 115.413, 115.416, and 115.417 are adopted without changes and will not be republished.

The new §115.412, concerning control requirements, defines the type of control or technologies required to achieve necessary emission reductions. The new §115.413, concerning alternate control requirements, enables the TACB executive director to approve substantially equivalent control technologies under specific conditions. The new §115.415, concerning testing requirements, identifies the test methods which must be used to determine compliance and enables the TACB executive director to approve minor modifications to the methods. The new §115.416, concerning recordkeeping requirements, describes the information which must be maintained by affected facilities in order to ensure continuous compliance and improve the effectiveness of enforcement. The new §115.417, concerning exemptions, specifies the conditions necessary to qualify for exemption from certain control requirements. The new §115.419, concerning counties and compliance schedules, establishes the final compliance dates for applicable controls in specified counties. These sections are part of a series of additions to Chapter 115 proposed primarily to satisfy United States Environmental Protection Agency (EPA) requirements for Phase I of the Post-1987 State Implementation Plan revisions for ozone. The TACB also has adopted a comprehensive restructuring of Chapter 115 to promote greater clarity and to eliminate inconsistencies resulting from numerous independent revisions over the past several years.

The Administrative Procedure and Texas Register Act, Texas Civil Statutes, Article 6252-13a, §5(c)(1), requires categorization of comments as being for or against a proposal. A commenter who suggested any changes in the proposal is categorized as against the proposal; a commenter who agreed with the proposal in its entirety is classified as being for the proposal. Four commenters opposed the proposal, while no one testified in support.

One individual suggested the term "splashing", found in §115.412(1)(D), be defined as solvent breaking the vapor barrier at the lower freeboard limit. The proposed rule prohibits solvent from exceeding the acceptable freeboard limit. No additional clarification to this provision appears warranted.

One individual suggested that operators of cold cleaners be required to keep records of the amount of volatile organic compounds (VOC) used and emitted. Two individuals suggested removing all proposed exemptions for cold solvent degreasers. Recordkeeping requirements are intended to ensure compliance with applicable control requirements within a rule. No quantitative emission limitations are stipulated for cold solvent cleaners which would warrant actual emissions testing or recordkeeping. Since the control requirements are based on equipment specifications rather than specific emission limitations, records required concerning maintenance of necessary control devices appear sufficient to document compliance. The exemptions are provided in the Control Technique Guidelines for cold solvent cleaning operations published by EPA because the affected operations do not represent a significant source of VOC emissions.

One individual questioned the exemption in §115.417(1) which allows external drainage systems for solvents with a vapor pressure under 0.6 pounds per square inch absolute (psia), while the control requirement in §115.412(1) (A)(i) requires a cover for cleaners using solvent with a vapor pressure of greater than 0.3 psia. The exemption in §115.417(1) for internal drainage systems is allowed for parts that are too large to fit within a degreaser with an internal drainage system or when using a solvent with a true vapor pressure no greater than 0.6 psia. While the product being cleaned may be allowed to air dry externally, the solvent must still be "kept closed whenever parts are not being handled in the cleaner," in accordance with the control requirement. This is consistent with the requirements in §115.412(1)(A)(i) for solvents with a true vapor pressure of 0.3 psia.

One commenter, EPA, suggested revising the exemption specified in §115. 417(3) to remove the 550 pound per day (lb/day) exemption for sources in El Paso County. Removal of the 550 lb/day exemption was not needed to demonstrate attainment in El Paso County. However, lower exemption levels for degreasing operations can be considered in subsequent rulemaking.

One commenter, the City of Fort Worth, suggested the phrase "relating to Vent Gas Control" found in §115.419 does not fit in this rule. The TACB staff concurs with the City of Fort Worth and will remove this typographical error.

The new sections are adopted under the Texas Clean Air Act (TCAA), §382.017, which provides the TACB with the authority to make rules consistent with the policy and purposes of the TCAA.

§115.415. Testing Requirements. For the counties referenced in §115.419 of this title (relating to Counties and Compliance Schedules), the following testing requirements shall apply.

(1) Compliance with §115. 412(1) of this title (relating to Control Requirements) shall be determined by applying the following test methods, as applicable:

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

(B) minor modifications to these test methods and procedures approved by the executive director.