

The Texas Commission on Environmental Quality (commission) adopts amendments to Subchapter A, Definitions, §115.10; Subchapter C, Volatile Organic Compound Transfer Operations, §115.216 and §115.217; Subchapter D, Petroleum Refining, Natural Gas Processing, and Petrochemical Processes, §§115.352, 115.354, 115.357, and 115.359; and Subchapter H, Highly-Reactive Volatile Organic Compounds, §§115.722, 115.725 - 115.727, 115.729, 115.764, 115.767, 115.781, 115.783, 115.785, 115.787, and 115.789. These amended sections and corresponding revisions to the state implementation plan (SIP) will be submitted to the United States Environmental Protection Agency (EPA).

Sections 115.10, 115.216, 115.352, 115.354, 115.357, 115.725 - 115.727, 115.729, 115.764, 115.767, 115.781, 115.783, 115.785, 115.787, and 115.789 are adopted *with changes* to the proposed text as published in the May 16, 2003 issue of the *Texas Register* (28 TexReg 3905). Sections 115.217, 115.359, and 115.722 are adopted *without changes* to the proposed text and will not be republished.

#### BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

The commission adopts these amendments to Chapter 115, Control of Air Pollution from Volatile Organic Compounds, and revisions to the SIP in order to make a variety of changes which correct typographical errors, update cross-references, add flexibility, and amend requirements to achieve the intended volatile organic compound (VOC) emission reductions of the program.

## SECTION BY SECTION DISCUSSION

### *Subchapter A, Definitions*

The amendments to §115.10, Definitions, delete an abbreviation for Texas Clean Air Act in the first sentence of §115.10 and spell out the abbreviation for this term in the second sentence of §115.10.

In addition, the amendments to §115.10 revise the definition of highly-reactive volatile organic compound (HRVOC) to specify that isobutene (2-methylpropene or isobutylene) is one of the isomers of butene. This revision is necessary to eliminate the possibility of confusion about which compounds are included as isomers of butene and because owners and operators might otherwise design their monitoring and testing plans to exclude isobutene, thereby increasing costs due to the additional speciation which would be necessary to exclude isobutene. The revision is consistent with the intended scope of the definition of HRVOC, the modeling which was the basis for this definition, and the associated Chapter 115, Subchapter H, HRVOC rules which were adopted on December 13, 2002 and published in the January 3, 2003 issue of the *Texas Register* (28 TexReg 113). Additionally, speciation of the individual isomers of butene is not currently necessary where speciation of HRVOC is required for testing and monitoring under Chapter 115, Subchapter H. For the purpose of this rule, isomers of butene may be grouped and reported as total butenes. However, in the interest of furthering the commission's understanding of the science of HRVOCs, the commission is requesting that butenes are further speciated into groupings of 2-butene and 1-butene/isobutene, whenever possible. Specifically, the commission would like industry to report how much of the butenes emitted in the Houston/Galveston ozone nonattainment area (HGA) are cis- and trans 2-butenes.

The amendments to §115.10 also relocate the definition of process unit because it was inadvertently not in alphabetical order. Finally, the amendments to §115.10 add a definition of strippable volatile organic compound (VOC) and renumber subsequent definitions in order to accommodate the new definition.

*Subchapter C, Volatile Organic Compound Transfer Operations*

*Division 1, Loading and Unloading of Volatile Organic Compounds*

The amendments to §115.216, Monitoring and Recordkeeping Requirements, add a missing section symbol to §115.216(1)(B).

In addition, the amendments to §115.216 revise §115.216(3)(B) to specify that vapor pressure records are not required if the total volume of VOC loaded into transport vessels is less than 20,000 gallons per day (averaged over each consecutive 30-day period). This revision is adopted because vapor pressure records are not necessary to establish compliance with the 20,000 gallon per day exemption threshold at loading operations for which the total volume of VOC loaded into transport vessels is less than 20,000 gallons per day. In addition, the amendments spell out and acronym “pounds per square inch, absolute (psia)” in §115.216(3)(C).

The amendments to §115.217, Exemptions, revise §115.217(a)(1) and (b)(1) by adding “to or from transport vessels” to indicate that VOC transfer includes both loading and unloading operations to or from transport vessels. The amendments to §115.217 also revise §115.217(a)(2)(A) and (b)(3)(A) by replacing “any plant” with “loading operations at any plant” because these exemptions are more

appropriately associated with loading operations at the plant, rather than the plant itself. In addition, the amendments to §115.217 revise §115.217(a)(2)(A) and (B), (3), (4), and (5)(A); and (b)(1), (2), (3)(A) and (B), and (4) - (6), by deleting unnecessary division title references.

*Subchapter D, Petroleum Refining, Natural Gas Processing, and Petrochemical Processes*

*Division 3, Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas*

The amendments to §115.352, Control Requirements, revise §115.352(2) by adding a specific Code of Federal Regulations (CFR) reference and date for Test Method 21 and specifying that Test Method 21 is an EPA test method.

The amendments to §115.352 also revise §115.352(2) by replacing the word “monitored” with “inspected.” This revision is necessary to ensure that §115.352(2) is not incorrectly interpreted to require the use of monitoring (with a hydrocarbon gas analyzer) to determine whether a successful repair was made to a component in heavy liquid service. Section 115.357(1) allows owners and operators to implement audio/visual/olfactory inspections on components in heavy liquid service in lieu of monitoring (with a hydrocarbon gas analyzer). Logically, the same methodology should be used after a component repair attempt as during the routinely scheduled monitoring or inspection on that component.

In addition, the amendments revise §115.352(2)(A) for consistency with 30 TAC §115.782(c)(1)(B), Procedures and Schedule for Leak Repair and Follow-up, and the commission’s intent as stated in the

preamble to the adopted rule published in the January 3, 2003 issue of the *Texas Register* (28 TexReg 161). Specifically, the commission revised §115.352(2)(A) to state: “If the repair of a component *within 15 days after the leak is detected* would require a process unit shutdown *which would create more emissions than the repair would eliminate*, the repair may be delayed until the next scheduled process unit shutdown...” (New language is shown in italics.).

The amendments also revise §115.352(2)(A)(i)(I) to include startup emissions and maintenance emissions (i.e., those associated with clearing the unit) as part of the calculation comparisons. This revision is necessary to ensure that the emissions from shutdown, maintenance, and subsequent startup of a unit for repair of leaking components are not greater than the emissions eliminated by the repairs.

In addition, the amendments revise §115.352(2)(A)(i)(III) to consider only the emissions that occur on or after the date that the leak is found in the delay-of-repair calculation because it is impossible to reduce emissions which occurred before the leak detection date.

The amendments also revise §115.352(2)(A)(i) and (ii) by adding “and” at the end of §115.352(2)(A)(i) and changing the “and” at the end of §115.352(2)(A)(ii) to make it readily apparent that §115.352(2)(A)(iii) is an alternative to the requirements of §115.352(2)(A)(i) and (ii).

The amendments to §115.352(2)(A)(ii) correct cross-references to clause (i)(I) and (IV) and include startup emissions and maintenance emissions (i.e., those associated with clearing the unit) as part of the calculation comparisons. This revision is necessary to ensure that the emissions from shutdown,

maintenance, and subsequent startup of a unit for repair of leaking components are not greater than the emissions eliminated by the repairs. The amendments to §115.352(2)(A)(ii) also specify that the total cumulative mass emissions from leaking components in the process unit for which delay of repair is sought are assessed from the time that each additional leaking component is identified or at the time of any other changes to the emissions estimates, from the date of the change forward. This revision is necessary because it is impossible to reduce emissions which occurred before the leak detection date.

The amendments to §115.352(2)(A)(iii) revise the required timing for extraordinary efforts so that the timing is based on the leak date, instead of the date the component is placed on the shutdown list or the date the first extraordinary effort attempt is made. This revision makes the rule language consistent with current software.

The amendments to §115.352 also revise §115.352(2)(D) by adding a sentence specifying that the use of “extraordinary efforts,” as described in §115.352(2)(A)(iii), is not required for a valve to be eligible for the shutdown list. This revision is necessary to ensure that §115.352(2)(D) is not incorrectly interpreted to require the use of extraordinary efforts, such as sealant injection, before placing a valve on the shutdown list under Subchapter D, Division 3.

In addition, the amendments to §115.352 revise §115.352(2)(E) by adding language to correct an existing requirement which inadvertently requires monitoring (with a hydrocarbon gas analyzer) of components in heavy liquid service for which a repair attempt was made during a shutdown. This revision is necessary because §115.357(1) allows owners and operators to implement

audio/visual/olfactory inspections on components in heavy liquid service in lieu of monitoring (with a hydrocarbon gas analyzer).

Finally, the amendments to §115.352 revise §115.352(2)(E) to specify that components for which a repair attempt was made during a shutdown must be monitored (with a hydrocarbon gas analyzer) and inspected for leaks within 30 days after startup is completed following the shutdown. Currently, such monitoring and inspection is required within 30 days or at the next monitoring period, whichever occurs first, after startup is completed following the shutdown. The revision addresses the scenario in which a unit has a start-up with only a few days left in the monitoring period, but continues to ensure that components for which a repair attempt was made during a shutdown are monitored shortly after startup.

The amendments to §115.352(4) delete the exemption for pressure relief valves and relocate it to §115.357(9).

The amendments to §115.352(7) replace the terms “valves” and “valves and piping connections” with the more general term “components” for consistency with the revisions to §115.354(1)(B) and (C) described in the next paragraph.

The amendments to §115.354, Inspection Requirements, replace the term “valves” with the more general term “components” in §115.354(1)(B) and (C). This will ensure that all nonaccessible components are monitored on an annual basis, and that unsafe-to-monitor components are monitored on an annual basis or when it is safe to conduct monitoring.

The amendments to §115.354 also revise §115.354(3) by adding a specific CFR reference and date for Test Method 21 and specifying that Test Method 21 is an EPA test method.

In addition, the amendments to §115.354 revise §115.354(10)(A) by replacing “the time of monitoring (beginning and end)” with “the time of monitoring (i.e., the time that the organic vapor concentration is read or recorded for each component).” This revision is necessary because recording of a single time for each component, rather than the start and stop times, is available with current software. The intent of the revised language is to require a recording of the time that the organic vapor concentration is read or recorded for each component, thereby allowing auditors to determine pace anomalies. Also, in §115.354(10) and (10)(B) the term “electronic” has been deleted because the commission does not specify that the records must be electronic. These records may also be made available in hard copy form.

The amendments to §115.354 also revise §115.354(10)(C) by adding language which specifies that notations of database changes include changes to the monitored concentration, date and time read, repair information, addition or deletion of components, or monitoring schedule. This revision is necessary because the current §115.354(10)(C) could be interpreted to require a notation of changes which are not needed to demonstrate compliance (for example, a more accurate description of a component's location).

Finally, the amendments to §115.354 revise §115.354(11) by adding the phrase “in gaseous or light liquid service” because heavy liquid components will not have a screening concentration.

The amendments to §115.357, Exemptions, revise §115.357(1) and (2) by adding commas after “pounds per square inch.” In §115.357(1), the word “which” was changed to the word “that” to conform with current style guidelines.

The amendments to §115.357 also revise §115.357(7) by replacing the incorrect term “facilities” with “plant sites covered by a single account number.” This revision is consistent with the intended scope of this exemption as previously identified in the January 3, 2003 issue of the *Texas Register* (28 TexReg 153) and documentation for the 1993 rulemaking in which this exemption was added.

In addition, the amendments to §115.357 revise §115.357(8) by adding a specific CFR reference and date for Test Method 21 and specifying that Test Method 21 is an EPA test method.

The amendments to §115.357 also revise §115.357(9) by adding exemptions for open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of an emissions event; open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system; and pressure relief valves. The exemption for pressure relief valves is being relocated from §115.352(4).

Finally, the amendments to §115.357 add a new §115.357(10), which exempts connectors in instrumentation systems because connectors are not included in the federal reasonably available control technology requirements for fugitive emissions, and renumber the current §115.357(10) as

§115.357(11). Regarding the requirements of 40 CFR §63.169, the phrase “which are in compliance with” is replaced with the phrase “that meet” in order to be consistent with the language in §115.722(b).

The acronym “HRVOC” in §115.357(10) is also spelled out as highly-reactive volatile organic compound because it is only used once in the section.

The amendments to §115.359, Counties and Compliance Schedules, revise the compliance date in §115.359(2) and (3) from December 31, 2003 to March 31, 2004 in order to provide more time for the regulated community to comply and also revise a reference in §115.359(3) from “appropriate regional office” to “executive director.”

*Subchapter H, Highly-Reactive Volatile Organic Compounds*

*Division 1, Vent Gas Control*

The amendments to §115.722, Site-wide Cap and Control Requirements, revise §115.722(b) by replacing the phrase “comply with” with the phrase “meet the requirements of” because the current language may be interpreted as requiring direct compliance with selected provisions of 40 CFR §60.18. This amendment is intended to update the language that incorporates the requirements of that section without implying that the rule establishes an independent requirement to comply with that federal rule. The acronyms “VOC” in §115.722(b) and “DERC” in §115.722(c) are deleted because the terms “volatile organic compound” and “discrete emission reduction credit” are used only once in the section.

The amendments to §115.725, Monitoring and Testing Requirements, revise §115.725(a) by replacing the term “actual and expected” with the term “maximum potential.” This correction is also made in §115.725(c)(2). In addition, §115.725(a) and (c)(2) specifies that the maximum potential must be established during any operation not defined as an emissions event, scheduled maintenance, startup, or shutdown activity as defined in 30 TAC §101.1. Finally, new language is added to §115.725(b) specifying that in lieu of testing, process knowledge which utilizes scientific calculations and other process monitoring data may be used to determine HRVOC emission data from vent gas streams which are not routed to a flare. Types of processes that may use process knowledge in lieu of actual testing are: 1) analyzer vents; 2) pressure relief valves; 3) steam system vents; or 4) vent gas streams where there is no HRVOC present except during emissions events.

The amendments to §115.725(b) add “and” after “§60.13(b)” to correct the punctuation of this subsection.

The amendments to §115.725(c) expand the acceptable period to develop test data by referencing testing that was conducted before “approval of the test plan” provided that the owner or operator of the affected source obtains approval for the testing report and data from the executive director. Also, the term “test” has been removed to be consistent with the standard terminology, “reference methods.”

The amendments to §115.725(c) remove the existing language that specifies a deadline of December 31, 2002. In addition, a reference to submit the data to the “Engineering Services Team” has been changed to “executive director.”

The amendments to §115.725(d)(1) add flexibility concerning the location of the continuous flow monitoring system by deleting the requirement that it be located on the main flare header (located after the knock-out pot and addition of any supplementary fuel). The amendments to §115.725(d)(1) specify that the monitoring system must be capable of measuring the entire gas stream flow to the flare (i.e., all vent gas and supplemental fuel sources) and may consist of one or more flow measurements at one or more header locations. Furthermore, the amendments to §115.725(d)(1) specify that the flow monitor, or velocity monitor used to determine flow rate, shall be initially calibrated, prior to installation, to demonstrate accuracy to within 5.0% at flow rates equivalent to 30%, 60%, and 90% of monitor full scale. After installation, the flow monitor or velocity monitor shall be calibrated annually according to manufacturer's specifications. Furthermore, the amendments to §115.725(d)(1) allow the owner or operator of a flare to apply for an alternative means of determining the flare flow rate on a case-by-case basis. This alternative will allow executive director consideration and approval of the infrequent use of process knowledge, material balance information, or other means to supplement the direct flow monitoring system in those instances where additional cost or other circumstances do not warrant additional monitor capability for a flow level above the monitor system range.

The amendments to §115.725(d)(2) specify that the on-line analyzer system must also be capable of measuring, at least once every 15 minutes, other potential constituents (e.g., hydrogen, nitrogen, methane, and carbon dioxide, and VOCs other than HRVOCs) sufficient to determine the molecular weight and net heating value of the gas combusted in the flare to within 5.0%. To satisfy this requirement, owners and operators may determine on a case-by-case basis what constituents must be monitored to achieve this objective. The commission acknowledges that some flare system designs

cannot accommodate the monitoring location requirements and has revised §115.725(d)(2) to state that samples shall be collected from a location on the main flare header such that the measured constituents, including any supplementary fuel, is representative of the combined gas combusted in the flare system. Owners or operators may request to use an on-line calorimeter to determine net heating value as an alternative method under §115.725(d)(8). The term “continual” is replaced with the term “continuously” to be consistent with standard terminology. Regarding the minimum net hearing value requirements of 40 CFR §60.18, the phrase “demonstrate continuous compliance with” has been replaced with the phrase “continuously meet the” in order to be consistent with the language in §115.722(b).

The amendments to §115.725(d)(4) specify that during any period of monitor downtime of the on-line analyzer exceeding eight consecutive hours, the owner or operator must take a sample daily, starting within 24 hours of the initial on-line analyzer malfunction. Additionally, §115.725(d)(4) is revised to specify that samples collected during monitor downtime shall be analyzed to determine other potential constituents (e.g., hydrogen, nitrogen, methane, and carbon dioxide, and VOCs other than HRVOCs) sufficient to determine the molecular weight and net heating value of the gas combusted in the flare to within 5.0%. The location for the samples must be selected such that the measured constituents, including any supplementary fuel, is representative of all of the major constituents going to the flare system. Finally, the language regarding the heating value and exit velocity requirements of 40 CFR §60.18 is revised to replace the phrase “compliance with” with the phrase “are met” in order to be consistent with the language in §115.722(b).

The amendments to §115.725(d)(5) specify that the average net heating value over a one-hour block period is used to demonstrate compliance with the minimum net heating value requirements.

The amendments to §115.725(d)(6) revise the assumed flare destruction efficiency to 99% for ethylene and propylene and 98% for all other HRVOCs when the flare meets the heating value and exit velocity requirements of 40 CFR §60.18 and specify mass emissions calculation requirements on a 15-minute basis. The amendments to §115.725(d)(6) also correct language by striking the term “and” and replacing it with the term “or” to indicate that a 93% destruction efficiency is used for emissions calculations when either heating value or exit velocity requirements is not satisfied. Finally, the language regarding the heating value and exit velocity requirements of 40 CFR §60.18 is revised to replace the phrase “in compliance with” with the phrase “meets the” in order to be consistent with the language in §115.722(b).

The amendments to §115.725(d)(7) specify that the average exit velocity over a one-hour block period is used to demonstrate compliance with the maximum exit velocity requirements.

The term “pre-approved” is replaced with the term “approved” in §115.725(d)(8) to provide the executive director with more latitude in accepting modified monitoring methods. Also, the term “executive director” replaces the term “Engineering Services.” In addition, the amendments to §115.725(d)(8) specify that for the purposes of this paragraph, “executive director” is substituted in each place that 40 CFR Part 63, Appendix A, Test Method 301 (December 29, 1992) references “administrator” because EPA approval is not needed to validate a method under §115.725(d)(8).

Also, §115.725(e) is amended to correct a cross-reference from subsection (a) to subsection (d) in order to provide the intended exemption from monitoring requirements for flares used solely for abatement of emissions from loading operations for transport vessels. Furthermore, §115.725(e) has been subdivided and restructured to accommodate new language to address the monitoring requirements for temporary portable flares used solely for abatement of emissions from scheduled maintenance or startup or shutdown activities. This language is necessary to explain that, like flares used solely for abatement of emissions from loading operations for transport vessels, temporary portable flares used solely for the abatement of emissions from scheduled maintenance or startup or shutdown activities are not required to comply with the monitoring requirements. Existing language regarding loading operations for transport vessels is outlined in paragraph (1) and the new language regarding temporary portable flares is outlined in paragraph (2) of §115.725(e). Regarding the heating value and exit velocity requirements of 40 CFR §60.18, the language in §115.725(e)(1)(D) is revised to replace the phrase “in compliance with” with the phrase “meets the” and to replace the phrase “is not in compliance with” with the phrase “does not meet” in order to be consistent with the language in §115.722(b).

The rule language previously in §115.725(e)(2)(C) is now located in §115.725(e)(1)(B)(iii) and has been corrected to better define that the material loaded immediately previous to the current loading operation refers to the material in the transport vessel by adding the phrase “into the vessel.”

The amendments to §115.725(e)(4) revise the assumed flare destruction efficiency to 99% for ethylene and propylene and 98% for all other HRVOCs when the flare is in compliance with heating value and exit velocity requirements of 40 CFR §60.18, and specify mass emissions calculation requirements on a

15-minute basis. The amendments to §115.725(e)(4) also correct language by striking the term “and” and replacing it with the term “or” to indicate that a 93% destruction efficiency is used for emissions calculations when either heating value or exit velocity requirements are not satisfied.

A new §115.725(f) was added which specifies that modifications to test methods or alternative test methods may be approved by the executive director, and that test methods other than those specified in §115.725(a) - (c) and (e) may be used if validated by 40 CFR Part 63, Appendix A, Test Method 301. For the purposes of §115.725(f), “executive director” is substituted in each place that Test Method 301 references “administrator” because EPA approval is not needed to validate a method under §115.725(f).

A new §115.725(g) is added to allow the executive director to waive testing for no more than one-half of the vents that are identical in design and operation if the owner or operator can demonstrate that certain vents are identical in design and operation and the emissions from those vents can be expected to be identical. The executive director may grant a temporary waiver if the owner or operator makes such a demonstration. If the results of testing at least half the vents demonstrates that these vent emissions are representative of emissions from all vents, then the executive director may grant a permanent test waiver for the remaining untested vents. However, if the executive director determines that the results are not representative of all vents, then the owner or operator will be required to test the remaining vents.

The amendments to §115.726, Recordkeeping and Reporting Requirements, revise §115.726(a) by specifying where test plans and quality assurance plans (QAP) must be submitted and that two separate

plans are required: a test plan for testing, and a QAP for monitoring. In addition, new §115.726(a)(1)(C) and (2)(C) define the turnaround time for QAPs and test plans submitted to the commission, and is aimed at encouraging the timely submittal of QAPs and test plans. Specifically, the new §115.726(a)(1)(C) is being adopted at industry's request so that the affected owners and operators will have the assurance that they can send in their QAPs early (allowing time for the agency to review the plans) and have sufficient time to purchase equipment and begin monitoring by December 31, 2005 after the commission's review. However, if an owner or operator elects to wait to submit a QAP until April 30, 2005 and is issued a deficiency letter on day 180, there will be no relief for failure to implement the required monitoring by December 31, 2005. In addition, the owner or operator must submit a corrected QAP within 60 days of the date of any deficiency and/or additional requirements letter. If an approval or detailed deficiency and/or directed additional requirements letter is not issued within 180 days of receipt by the executive director, then the QAP is approved by default. The language in §115.726(a)(1)(A) and (B) and (2)(A) and (B) revise the compliance dates for submitting QAPs for both monitoring and testing flare and vent gas streams to add additional time. The date defining existing flares and vent gas streams is changed from June 30, 2004 to December 31, 2005 and extends the deadline for submitting a QAP from April 30, 2004 to April 30, 2005. In addition, for flares and vent gas streams that later become subject to these requirements, the defining date has been changed from June 30, 2004 to December 31, 2005.

Similarly, the new §115.726(a)(2)(C) is being adopted so that the affected owners and operators will have the assurance that they can send in their test plans early (allowing time for the agency to review the plans) and have sufficient time to conduct testing by December 31, 2005 after the agency's review.

In addition, the owner or operator must submit a corrected test plan within 45 days of the date of any deficiency and/or additional requirements letter. If an approved or detailed deficiency and/or additional requirements letter is not issued within 45 days of receipt by the executive director, then the test plan is approved by default, provided the testing is to be conducted in accordance with the appropriate reference methods and procedures specified in 30 TAC §115.125, Testing Requirements, without deviation.

Also, §115.726(c) is amended to specify that an owner or operator does not necessarily need to be subject to both §115.722 and §115.725(d) or (e) in order to comply with the recordkeeping requirements of this section. Therefore, the word “and” is being replaced by “or.”

Furthermore, §115.726(c)(3) is amended to specify that the weekly records of corrective action taken are for continuous monitoring systems during monitor downtime.

The recordkeeping requirements in §115.726(c)(5) are already addressed in §115.726(f), so this redundant language is deleted. In addition, §115.726(f) is being revised with a phrase added to specify that the owner or operator is to maintain not only records required in this section, but also other records as necessary to demonstrate continuous compliance.

Finally, the amendments to §115.726 add a new §115.726(d)(3), which requires the owners or operators of vent gas streams and flares that have no potential to emit HRVOC to maintain records demonstrating that they have no potential to emit HRVOC.

The amendments to §115.727, Exemptions, revise §115.727(a) to use the acronym for the term “parts per million by volume (ppmv)” as “ppmv” and to delete inadvertent references to §115.726(d) and (f). The recordkeeping specified in §115.726(d) and (f) is necessary in order to demonstrate compliance with §115.727(a). The amendments to §115.727 also revise §115.727(a) to provide more specific language defining the exemption.

The amendments to §115.727 also revise §115.727(b) by adding a section title which is necessary due to the revisions to §115.727(a) described in the previous paragraph. The amendments to §115.727(b) restructure the language and specify that a QAP is not required for flares that are exempt from continuous monitoring.

The amendments to §115.727 further revise §115.727(a), (c), and (d) by correcting a reference from §115.722 to §115.722(a). This revision is necessary so that §115.727(a), (c), and (d) provide exemptions from the site wide cap of §115.722(a), while ensuring that the flare requirements of 40 CFR §60.18 continue to apply.

In addition, the amendments to §115.727 add new §115.727(e)(1) for vent gas streams that have no potential to emit HRVOC and new §115.727(f) for flares that receive a gas stream with less than 100 ppmv HRVOC at all times. The amendments to §115.727 also add new §115.727(e)(2) for a vent gas stream that has an HRVOC concentration less than 100 ppmv at all times, provided that the total maximum potential HRVOC emissions for all vent gas streams exempted under §115.727(e)(2) is less than 5.0% of the HRVOC cap for the account specified in §115.722(a). In addition, the amendments to

§115.727 add a new §115.727(e)(3), which exempts pressure tanks, laboratory vent hoods, instrumentation air systems, a variety of combustion sources, atmospheric storage tanks, wastewater system vents, cooling towers, and equipment leak fugitive components, except for vents from pressure relief valves occurring when the process pressure is sufficient to overcome the preset pressure relief point of the pressure relief valve and emissions are either released directly to the atmosphere or routed to a control device. The new exemptions are appropriate in order to exclude sources for which monitoring and testing for HRVOC would be impractical due to the owner's or operator's certainty that HRVOCs would be present in low concentrations or would not be present at any time. Vent gas streams must have no detectable amount of any HRVOCs by any currently available methods of detection for the streams to be considered exempt under §115.727(e)(1). Extremely low concentrations of HRVOCs can be detected, so the commission specifically solicited detailed comments on setting an appropriate level for allowing exemption from testing or monitoring and subsequently provided new language in §115.727(f) to specify that flares that receive a gas stream with less than 100 ppmv HRVOC at all times are exempt from the requirements of Subchapter H, Division 1, with the exception of the recordkeeping requirements of §115.726(d)(3).

The amendments to §115.729, Counties and Compliance Schedules, revise the compliance date in §115.729(1)(A) and (2) from June 30, 2004 to December 31, 2005 in order to provide more time for the regulated community to comply with the testing requirements of §115.725. In addition, the amendments to §115.729(1)(A) revise "executive director" to "appropriate regional office and any local air pollution control agency with jurisdiction" to specify where within the agency the testing results are to be submitted.

*Subchapter H, Highly-Reactive Volatile Organic Compounds*

*Division 2, Cooling Tower Heat Exchange Systems*

The amendments to §115.764, Monitoring Requirements, revise §115.764(a) and (b) to specify that the monitoring requirements apply to cooling tower heat exchange systems with greater than 100 ppmw of HRVOC on the process side fluid. The commission has determined that 100 ppmw is a reasonable detection limit. Consequently, §115.764(a)(4) is amended to simplify the rule language by removing the term “highly-reactive volatile organic compounds” and replacing it with the acronym “HRVOC” since this term is previously spelled out in the section. In addition, §115.764(a)(4) and (b)(4) is revised to require only monthly HRVOC speciation, instead of speciated strippable VOC concentration. Section 115.764(a)(5) and (b)(5) was revised to specify where to sample for total strippable VOC by adding the phrase “in the cooling tower water.” In addition, the commission solicited comments on what degree of flexibility may be needed in §115.764(a) - (c). Specifically, the commission solicited comments on the specific constituents that must be determined from samples, the appropriate time allowed to determine sample content, the frequency of alternate sampling when continuous monitors are out of operation, and the executive director’s approval of modifications to the monitoring requirements on a case-by-case basis. Furthermore, the amendments to §115.764(a)(5) revise language to specify that the 50 parts per billion by weight (ppbw) trigger level is based on measurements made over one-hour blocks of time.

The amendments to §115.764 also revise §115.764(a)(6) and (b)(6) to provide an optional monitoring requirement which will allow the use of a continuous on-line HRVOC concentration analyzer. The on-

line analyzer must be capable of determining HRVOCs at least once every 15 minutes. Owners or operators will not have to determine the total strippable VOC concentration nor the speciated strippable VOC concentration requirements found in §115.764(a)(2), (4), and (5), and (b)(2), (4), and (5) if a properly installed, calibrated, operated, and maintained on-line HRVOC analyzer is used.

In addition, the amendments to §115.764 revise §115.764(c) to remove the reference to speciated strippable VOC to only require speciation of HRVOC. Additionally, the amendments to §115.764(c) change the time required for the analysis of samples from 48 hours to no later than seven days after the sample(s) have been collected, and specify that collection of a sample into a Tedlar™ bag requires that the sample must be analyzed no later than 72 hours after the sample(s) have been collected.

The amendments to §115.764(d) specify that the QAP is for the monitoring of *equipment* required by Subchapter H, Division 2, delete the term “HRVOC,” referring to cooling towers in HRVOC service in §115.764(d)(2), and change a reference to the former Engineering Services Team to the executive director. Also, amendments to §115.764(d)(1) and (2) revise the date defining existing cooling towers from June 30, 2004 to December 31, 2005 and extend the deadline for submitting a QAP from April 30, 2004 to April 30, 2005. For cooling towers that later become subject to these requirements, the defining date has been changed from June 30, 2004 to December 31, 2005.

In addition, a new §115.764(d)(3) defines the turnaround time for QAPs submitted to the commission. This language is aimed at encouraging the timely submittal of QAPs. Specifically, the new §115.764(d)(3) is being adopted at industry's request so that affected owners and operators will have

the assurance that they can send in their plans early (allowing time for the agency to review the plans) and have sufficient time to purchase equipment and begin monitoring by December 31, 2004 after the agency's review. However, if an owner or operator elects to wait to submit a plan and is issued a deficiency letter on day 180, there will be no relief for failure to implement the required monitoring by December 31, 2004. In addition, the owner or operator must submit a corrected QAP within 60 days of the date of any deficiency and/or additional requirements letter. If an approval or detailed deficiency and/or directed additional requirements letter is not issued within 180 days of receipt by the executive director, then the QAP is approved by default.

The amendments to §115.764 also add new §115.764(e), which establishes an alternative to the monitoring requirements of §115.764(a)(2) - (5) and (b)(2) - (5). Specifically, in lieu of §115.764(a)(2) - (5) and (b)(2) - (5), the owner or operator of cooling tower heat exchange systems in which no individual heat exchanger has 5.0% or greater HRVOC in the process-side fluid shall determine total strippable VOC and the HRVOC concentration in the cooling tower water at least once per month, with an interval of not less than 20 days between samples, using the appropriate methods in §115.766. If the total strippable VOC concentration in the cooling tower water is 50 ppbw or greater, the owner or operator shall determine the total strippable VOC weekly and the HRVOC concentration weekly. The additional sampling for the total strippable VOC concentration and HRVOC concentration shall continue until the total strippable VOC concentration drops below 50 ppbw.

In addition, the amendments to §115.764 add new §115.764(f), which establishes an alternative to the continuous flow monitor requirements of §115.764(a)(1) and (b)(1). Specifically, in lieu of

§115.764(a)(1) and (b)(1), the owner or operator of cooling tower heat exchange systems may use the maximum potential flow rate based on manufacturer's pump performance data, assuming no back pressure. Included within §115.764(f)(2) is an additional alternative to the continuous monitoring of the flow rate. This second alternative allows for the continuous calculation of cooling water flow rate based on a combination of the manufacturer's pump data (e.g., design curve), continuously measured and recorded total dynamic head of the cooling water system, and the number of pumps in operation. The calculation method used to determine the hourly emission rate in pounds per hour must be described and demonstrated in the QAP required in §115.764(d).

Finally, the commission has added a new §115.764(g), which allows an owner or operator to submit for approval by the executive director any minor modification to the monitoring methods prescribed in §115.764. However, any minor modifications to the monitoring requirements must be able to indicate via additional testing alone or in conjunction with engineering calculations that the final flow rates or concentrations are equivalent to the results that would have been obtained if the prescribed monitoring requirements of §115.764 would have been followed. Furthermore, the commission provides for the use of different monitoring methods than those specified in §115.764(a), (b), (e), and (f). However, the alternate monitoring methods must be approved by the executive director and must be validated by 40 CFR Part 63, Appendix A, Test Method 301. This validation does not have to be made for each individual cooling tower heat exchange system for the same compounds for which the method was validated. The Test Method 301 validation is for a specific monitoring method; therefore, if no additional modifications are made to an alternate monitoring method which has been validated by Test Method 301, then that alternate monitoring method can be used at any other cooling tower heat

exchange system for the same compounds for which the method was validated. For the purposes of the new §115.764(g), “executive director” is substituted in each place that Test Method 301 references “administrator” because EPA approval is not needed to validate a method under Test Method 301.

The amendments to §115.767, Recordkeeping Requirements, add a new §115.767(a)(6), which establishes recordkeeping requirements necessary to document compliance with new §115.764(a)(6) and (b)(6) described earlier in this preamble. The amendments also revise §115.767(a)(3) and add language to the new §115.767(a)(6) to specify how to calculate hourly emissions of speciated HRVOC.

The amendments to §115.767 also add a new §115.767(d) and (e), which establish recordkeeping requirements necessary to document compliance with new §115.764(e) and (f), respectively, described earlier in this preamble.

In addition, the amendments to §115.767 add a new §115.767(f), which specifies the recordkeeping requirements necessary to demonstrate compliance with the new §115.764(f)(2). Specifically, the new §115.767(f) requires the following records to determine the continuous flow rate of the inlet of each cooling tower: the continuous measurement of cooling water pump discharge pressure; the manufacturer’s certified pump performance data; the number of pumps operating; any change to a cooling tower heat exchange system pump or pumping system in which the change would modify the basis for design pumping capacity; and the effect of any change on the maximum potential flow rate.

*Subchapter H, Highly-Reactive Volatile Organic Compounds*

*Division 3, Fugitive Emissions*

The amendments to §115.781, General Monitoring and Inspection Requirements, revise §115.781(a) to specify that individual identification of components is not required. The acceptable methods for identifying the components of each process unit in HRVOC service are given in the existing §115.781(a)(1) - (6). The revision to §115.781(a) is necessary due to the inherent difficulties associated with individually tagging all components.

The amendments to §115.781 also revise §115.781(b)(4) to specify that components for which a repair attempt was made during a shutdown must be monitored (with a hydrocarbon gas analyzer) and inspected for leaks within 30 days after startup is completed following the shutdown. Currently, such monitoring and inspection is required within 30 days or at the next monitoring period, whichever occurs first, after startup is completed following the shutdown. The revision will address the scenario in which a unit has a start-up with only a few days left in the monitoring period, but will continue to ensure that components for which a repair attempt was made during a shutdown are monitored shortly after startup.

In addition, the amendments to §115.781 revise §115.781(b)(7) to specify that if an unsafe-to-monitor component is not considered safe to monitor within a calendar year, it must be monitored as soon as possible during safe-to-monitor times. The amendments to §115.781(b)(7)(A) also delete the requirement for inert gas or hydraulic testing before startup of process units equipped with unsafe-to-monitor components. These revisions are necessary to ensure that monitoring personnel are not unnecessarily exposed to unsafe conditions.

Finally, the amendments to §115.781 revise the leak-skip option available under §115.781(f) by adding blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, and gauges to the list of components eligible for the leak-skip option because these components are functionally similar to the components (i.e., connectors, bolted manways, heat exchanger heads, hatches, and sump covers) which are currently allowed to use this leak-skip option. Once repaired, components with no moving parts (such as connectors) would be expected to remain leak free for extended periods. Because sight glasses, meters, and gauges have no moving parts, they are analogous to connectors (and in some cases even could be considered a subset of connectors). Consequently, the commission has included these components in the leak-skip option for connectors in §115.781(f).

The amendments to §115.781(f)(1) also limit the percentage of leaking components to less than 2.0% to qualify for the leak-skip program because as currently worded, §115.781(f)(1) inadvertently allows any percentage of leakers into the program. Consequently, a source could qualify for the leak-skip program of §115.781(f) despite having leaks from all blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, connectors, bolted manways, heat exchanger heads, hatches, and sump covers. More details concerning the rationale for the revisions to §115.781(f) is available later in this preamble under the FUGITIVE MONITORING heading in the RESPONSE TO COMMENTS section.

The amendments to §115.783, Equipment Standards, replace references to VOC in §115.783(2) and (2)(A) and (C) with references to HRVOC, and spell out and acronym highly-reactive volatile organic compound (HRVOC) in §115.783(2).

In addition, the amendments to §115.783(3) add an option which specifies that as an alternative to making repairs within 30 days to a leaking rupture disk, pin, second relief valve, or similar leak-tight pressure relief component, an owner or operator may repair or replace that component at the next planned process unit shutdown with the provision that the emissions are considered to be vent gas emissions and are subject to the site-wide cap in §115.722. This is consistent with the treatment of pressure relief valves under §115.725(a) as described later in this preamble under the VENT GAS AND FLARES heading in the RESPONSE TO COMMENTS section.

The commission agrees that an owner or operator may not always consider it practical to repair a failed rupture disk (or similar leak-tight component installed in series with a pressure relief valve) within 30 days and therefore has revised §115.783(3) accordingly to provide flexibility for such situations.

However, if an owner or operator elects to repair or replace the leaking component at the next planned process unit shutdown, the emissions are considered to be vent gas emissions and are subject to the site-wide cap in §115.722. This is consistent with the treatment of pressure relief valves under §115.725(a) as described earlier in this preamble under the VENT GAS AND FLARES heading in the RESPONSE TO COMMENTS section.

The amendments to §115.783 also revise §115.783(4)(A)(iii) to refer more generally to “dual seals” rather than “dual pump seals” because compressors and agitators are similar to pumps in that they include rotating shafts and therefore can have dual seals. The amendments also remove the reference to the former Engineering Services Team in §115.783(4)(B)(iii).

Finally, the amendments to §115.783 add a new §115.783(6), which specifies that except for pressure relief valves, no valves shall be installed or operated at the end of a pipe or line containing HRVOC unless the pipe or line is sealed with a second valve, a blind flange, or a tightly-fitting plug or cap. The sealing device may be removed only while a sample is being taken or during maintenance operations, and when closing the line, the upstream valve shall be closed first. This new paragraph is consistent with the existing §115.352(4) and is necessary to prevent excess fugitive emissions resulting from the opening of an open-ended valve. In addition, the exemption for pressure relief valves is being relocated to §115.787(f).

The amendments to §115.785, Testing Requirements, specify that flares that are in compliance with §115.722(b) and §115.725 are exempt from the testing requirements of Subchapter H, Division 3, in order to avoid duplicative testing. Furthermore, §115.785 was amended so that boilers or process heaters, either with a design heat input capacity equal to or greater than 150 million British thermal units (Btu) per hour (44 megawatts) or where the HRVOC emission stream is introduced into the boiler or heater with the primary fuel or as the primary fuel, are exempt from the testing requirements of this division. In addition, the amendments to §115.785 revise §115.785(3) by replacing a reference to the Engineering Services Team and the regional office with a reference to the executive director.

The amendments to §115.785 also revise §115.785(4) and §115.785(5) for consistency with the revisions to §115.725(a) and §115.725(c) described earlier in this preamble. Because the term “normal operating conditions” in §115.785(4) is difficult to define, it is the commission’s position that this term will make the rules too subjective and result in difficulties in enforcement due to differing

interpretations about what constitutes “normal operating conditions.” The commission's intent is that testing be conducted to establish maximum potential hourly HRVOC emissions data expected during any operation not defined as an emissions event or a scheduled maintenance, startup, or shutdown activity under §101.1. Therefore, §115.785(4) has been revised accordingly to include the same language concerning maximum HRVOC emissions as §115.725(a) and (c). Finally, the amendments to §115.785 revise §115.785(6) to remove the cross-reference to §115.725(f).

The amendments to §115.787, Exemptions, revise §115.787(c)(6) to include a reference to the definition of sampling connection system in 40 CFR §63.161, add the *Federal Register* publication date of federal regulations, and change the word “which” to the word “that” to conform with current style guidelines in §115.787(a) and (d).

In addition, the amendments to §115.787 add a new §115.787(c)(7) to include an exemption for instrumentation systems, as defined in 40 CFR §63.161, which are in compliance with 40 CFR §63.169.

The amendments to §115.787 also revise §115.787(d) to include an exemption for agitators equipped with shaft sealing systems. The commission had previously stated that this revision would be made in the January 3, 2003 issue of the *Texas Register* (28 TexReg 153), but a reference to agitators inadvertently was not included in the rule language published in that issue of the *Texas Register*. In addition, the amendments to §115.787 revise the second sentence of §115.787(d) to refer more

generally to “dual seals” rather than “dual pump seals” because compressors and agitators can have dual seals.

The amendments to §115.787 also revise §115.787(f) to include exemptions for pressure relief valves; open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of an emissions event; and open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system. Finally, the amendments to §115.787 correct a reference in §115.787(f) from §115.781(b) to §115.352(4).

The amendments to §115.789, Counties and Compliance Schedules, revise §115.789(1)(A) to specify that the schedule in the leak-skip option of §115.781(f) applies to blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers for which the owner or operator has notified the appropriate regional office and local air pollution control program that §115.781(f) will be used to establish the monitoring schedule for these components. This revision is necessary because the monitoring schedule under the leak-skip option of §115.781(f) extends beyond the compliance schedule in §115.789(1). The amendments revise the compliance dates in §115.789(1), (2), (5), and (6) from December 31, 2003 to March 31, 2004 in order to provide more time for the regulated community to comply.

The amendments to §115.789 also revise §115.789(1)(B) to specify that all components that are proposed for alternative monitoring under §115.781(f) must be monitored one time prior to April 1, 2006, and then according to the percentage leak rate and prescribed frequency thereafter. In addition, the amendments revise §115.789(2) to specify that equipment upgrades to meet the requirements of Subchapter H, Division 1, must be in place no later than December 31, 2005, while all other equipment upgrades must be in place no later than March 31, 2004, except for flares used to comply with the requirements of §115.783(2)(B). These flares should comply with §115.729(2).

The amendments to §115.789 also revise the compliance date for the independent third-party audit in §115.789(3) to allow an owner or operator to audit at least 50% of the process units by December 31, 2004 and the remainder of the process units by December 31, 2005.

Finally, the amendments revise the compliance date in §115.789(4) from December 31, 2003 to December 31, 2005 in order to provide more time for the regulated community to conduct testing and for consistency with the revisions to §115.729(1) described earlier in this preamble.

#### FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the rulemaking action in light of the regulatory impact analysis requirements of Texas Government Code, §2001.0225, and determined that this action is not subject to §2001.0025, because it does not meet the definition of a “major environmental rule” as defined in that statute.

“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, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state.

This rulemaking action is not a major environmental rule because its primary purpose is to make a variety of changes which correct typographical errors, update cross-references, add flexibility, and amend requirements to achieve the intended VOC emission reductions of the program. The rules will not 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.

In addition, a regulatory impact analysis is not required because the rules do not meet any of the four applicability criteria for requiring a regulatory analysis of a “major environmental rule” as defined in the Texas Government Code. Section 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. This rulemaking action does not exceed a standard set by federal law, and the proposed technical requirements are consistent with applicable federal standards. This rulemaking does not exceed an express requirement of state law and is not proposed solely under the general powers of the agency, but is specifically authorized by the provisions cited in the STATUTORY AUTHORITY section of this preamble.

Finally, this rulemaking action does not exceed a requirement of a delegation agreement or contract to implement a state and federal program.

#### TAKINGS IMPACT ASSESSMENT

The commission evaluated this rulemaking action and performed an analysis of whether the adopted rules are subject to Texas Government Code, Chapter 2007. The primary purpose of the rulemaking is to make a variety of changes which correct typographical errors, update cross-references, add flexibility, and amend requirements to achieve the intended emission reductions of the program.

Promulgation and enforcement of these rules would be neither a statutory nor a constitutional taking because they do not affect private real property. Specifically, the rules do not affect a landowner's rights in private real property because this rulemaking action does not burden (constitutionally), nor restrict or limit the owner's right to property and reduce its value by 25% or more beyond that which would otherwise exist in the absence of the rules. Therefore, these rules will not constitute a takings under the Texas Government Code, Chapter 2007.

#### CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission reviewed this rulemaking action and found that the action is a rulemaking identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11, or will affect an action/authorization identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11, and therefore, will require that applicable goals and policies of the Texas Coastal Management Program (CMP) be considered during the rulemaking process.

The commission determined that the rulemaking action is consistent with the applicable CMP goals and policies. The CMP goal applicable to this rulemaking action is the goal to protect, preserve, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas (31 TAC §501.12(1)). No new sources of air contaminants will be authorized. The CMP policy applicable to this rulemaking action is the policy that commission rules comply with regulations in 40 CFR, to protect and enhance air quality in the coastal area (31 TAC §501.14(q)). This rulemaking action complies with 40 CFR. Therefore, in compliance with 31 TAC §505.22(e), this rulemaking action is consistent with CMP goals and policies.

#### EFFECT ON SITES SUBJECT TO THE FEDERAL OPERATING PERMIT PROGRAM

Chapter 115 is an applicable requirement under 30 TAC Chapter 122; therefore, owners or operators subject to the federal operating permit program must, consistent with the revision process in Chapter 122, revise their operating permit to include the revised Chapter 115 requirements for each emission unit at their sites affected by the revisions to Chapter 115.

#### PUBLIC COMMENT

Two public hearings on this proposal were held in Houston on June 2, 2003, and one public hearing in Arlington was held on June 4, 2003. No one presented oral comments at the hearings. The following commenters submitted written comments: Lloyd, Gosselink, Blevins, Rochelle, Baldwin & Townsend, P.C. on behalf of Allied Waste Industries, Inc. (Allied); BASF Corporation (BASF); British Petroleum Products North America, Inc. (BP); Dow Chemical Company (Dow); Environmental Monitoring Service, Inc. (EMS); EPA, ExxonMobil Downstream/Chemical (ExxonMobil); Goodyear Tire &

Rubber Company, Houston Chemical Plant (Goodyear); Koch Hydrocarbon Southwest, LLC (Koch); Lyondell Chemical Company (Lyondell); Process Analytical Applications, Inc. (PAAI); Response Management Associates, Inc. (RMA); Texas Chemical Council (TCC); Texas Oil and Gas Association (TxOGA); and Valero Energy Corporation (Valero).

#### RESPONSE TO COMMENTS

EPA generally supported the proposed amendments to the vent gas rule that will encourage sources to submit early QAPs and test plans for vent gas and flares, while no commenters generally opposed the proposed amendments. Allied, BASF, BP, Dow, EMS, EPA, ExxonMobil, Goodyear, Koch, Lyondell, PAAI, RMA, TCC, and TxOGA raised issues or suggested changes. BP and Dow generally supported the TCC comments, and Valero supported the TxOGA comments.

#### *GENERAL COMMENTS*

EPA commented on the test plan approval process and questioned what standards will be used to approve test plans.

**The commission plans to review the test plans in the same manner in which it reviews test plans for all permit, state rule, and federally-required testing which EPA has previously approved.**

EPA commented that the rules cannot be approved without the description of how emissions from process vents will be determined and combined with cooling tower emissions and flare emissions to determine compliance with the cap on a 24-hour rolling average basis.

**This rulemaking does not specifically address the site-wide cap; however, a description of the site-wide cap is available in the January 3, 2003 issue of the *Texas Register* (28 TexReg 136).**

EPA stated that sufficient information should be included in the rules about the minimum standards the monitoring requirements must meet to insure that approved monitoring plans are enforceable.

**The minimum standards for monitor calibration are already specified in the rules. The commission has also provided EPA an outline of the minimum content required for QAPs.**

EPA stated that because vent gas streams that are below 100 ppmv and are less than 5.0% of the cap are exempt from the cap, then these exempt gas streams must be factored into the modeling as uncontrolled emissions.

**There is no modeling associated with this rulemaking; therefore, the commission is not specifically addressing this concern at this time.**

#### *DEFINITIONS*

**No comments were received regarding the first two sentences of §115.10. However, the commission deleted an abbreviation for Texas Clean Air Act in the first sentence of §115.10 and spelled out the abbreviation for this term in the second sentence of §115.10.**

Dow recommended that the definition for natural gas/gasoline processing in §115.10 be revised to include the definition of extraction given in Rule Interpretation Memo R5-10.001 issued December 21, 1999 by the commission's Air Rule Interpretation Team. Dow noted that this rule interpretation states: "Extraction as used in 30 Tex. Admin. Code §115.10 means a forced process which removes condensate (liquids from produced natural gas) from field gas. These 'extraction' processes are interpreted to not include unforced processes such as gravity separation or natural condensation. It is the opinion of the agency that the process methods listed below are the only ones considered as 'forced' processes. These process methods are as follows: absorption; refrigerated absorption; refrigeration; compression; adsorption; cryogenic-Joule-Thomson; cryogenic-expander; absorption and refrigerated absorption; absorption and compression; refrigerated absorption and refrigeration; refrigerated absorption and adsorption; refrigerated absorption and cryogenic-expander; refrigeration and compression; refrigeration and cryogenic-Joule-Thomson; cryogenic-Joule-Thomson and expander; and refrigerated absorption and cryogenic-Joule-Thomson."

**The commission confirms that this is the appropriate interpretation of extraction to use in conjunction with the definition of natural gas/gasoline processing in §115.10; however, no changes were proposed to the definition of natural gas/gasoline processing. Therefore, the commission declines to make the suggested changes in the current rulemaking because affected parties would not have had an opportunity for notice and comment on the changes. The commission may evaluate the suggested changes in the future and, if appropriate, consider them for possible inclusion in future rulemaking.**

Dow commented on the definition of synthetic organic chemical manufacturing process in §115.10 and stated that the terms “intermediate” and “product,” as used in this definition, are often confusing to industry due to the differing definitions among state and federal rules. Dow stated that to clarify the intent for the Chapter 115 requirements for fugitive emissions, the commission should include a definition of product in §115.10 that reflects previous rule interpretations by both the commission and EPA for similar synthetic organic chemical manufacturing industry (SOCMI) regulations such as New Source Performance Standards found in 40 CFR Part 60, Subparts VV, III, and NNN. Dow stated that it sent a question to the commission’s Air Rule Interpretation Team on March 30, 2000 asking if a process unit purchases a solvent (that is a listed SOCMI chemical) for use in its process and then recovers that solvent for sale (without ever chemically changing the solvent), does Chapter 115 consider this solvent to be “produced”? Dow stated that Jon Edwards’ reply on April 19, 2000, was that “Based on a previous interpretation by Michael Wilhoit on April 10, 1996, which has become official agency policy, it appears that the above acetone waste stream should not be considered a ‘SOCMI product’ or cause the facility to be designated a ‘SOCMI process’ triggering Chapter 115 applicability. This is because the acetone waste stream is not a useful material, it is not used in another process, cannot be used as a raw material in another SOCMI process, and is taken off site as a waste for disposal, where some fraction of the cost is recovered due to its high Btu content, and not value as a product.” Dow commented that the April 10, 1996 memo cites the same text used in EPA’s Applicability Determination Index (<http://cfpub.epa.gov/adi>) control number 9700112 dated June 19, 1997, and that if this definition of product is official agency policy, then it should be incorporated into §115.10 to avoid confusion and ensure consistency in applicability determinations.

**The commission confirms that this is the appropriate interpretation of product to use in conjunction with the definition of synthetic organic chemical manufacturing process in §115.10; however, no changes were proposed to the definition of synthetic organic chemical manufacturing process. Therefore, the commission declines to make the suggested changes in the current rulemaking because affected parties would not have had an opportunity for notice and comment on the changes. The commission may evaluate the suggested changes in the future and, if appropriate, consider them for possible inclusion in future rulemaking.**

TCC, ExxonMobil, Valero, and TxOGA stated that the term “strippable VOC” should be defined and provided recommended language for a definition of this term. Lyondell commented that the term “total strippable VOC” should be replaced with the term “total HRVOC” throughout Subchapter H, Division 2, because total strippable VOC is not defined.

**The commission agrees that “strippable VOC” should be defined to ensure that this term is consistently interpreted. Therefore, the commission has added a definition for strippable VOC to §115.10. However, the commission has not added a definition of total HRVOC to the rules, because this would necessitate the use of an on-line gas chromatograph, which is more stringent than the current rule requirements.**

TCC, ExxonMobil, Valero, and TxOGA stated that the term “vent gas” should be defined and provided the follow language: *“Any gas stream from a facility that is discharged directly to atmosphere or indirectly to atmosphere through a control device. The term ‘vent gas’ excludes relief valve discharges*

*and fugitive equipment leaks (including, but not limited to, pumps, compressors, and valves). The term ‘vent gas’ does not include byproduct or recovered gas streams used as a fuel gas or in other processes as a feedstock. The term ‘vent gas’ also does not include other gas streams that originate from a source regulated under another division of Chapter 115 where established control requirements and emission specifications apply, including but not limited to storage tanks, and loading and unloading operations.”*

**The commission does not agree that a definition for the term “vent gas” is necessary and has made no changes in response to this comment. The term “vent” is defined in §101.1, concerning Definitions. The vent gas definition suggested by the commenters would have to apply to all of Chapter 115; and therefore, further evaluation and opportunity to comment should be provided. Vent gas streams that are exempt from this rule are listed in §115.727(e); however, additional language has been added to §115.727(e) in response to other comments received and evaluated by the commission.**

#### *VOC TRANSFER*

ExxonMobil, TxOGA, and Valero supported the proposed changes to §115.216 and §115.217.

**The commission appreciates the support. Although no specific comments were received on §115.216, the commission added a missing section symbol to §115.216(1)(B).**

*VENT GAS AND FLARES*

TCC, ExxonMobil, Valero, and TxOGA suggested the deletion of the term “continuously” before the phrase “meet the requirements of” in §115.722(b).

**It is the commission’s intent to ensure that the requirements of §115.722(b) are met at all times; therefore, the commission declines to make the change suggested by the commenters.**

ExxonMobil, Valero, and TxOGA provided additional suggested revisions to §115.725(a) to specify that gas streams excluded by §115.727 do not need to be tested, and to add the term “expected during normal operations” regarding HRVOC emission data. ExxonMobil and Valero further stated that vent gas stream testing should only be required for what they described to be “normal operations,” which by the commenters' definition would exclude emissions events.

**The commission agrees that vent gas stream testing should not be required during emissions events; therefore, §115.725(a) and (c) and §115.727(e)(2) have been revised accordingly.**

**However, the suggested term “normal operations” is difficult to define. Therefore, the commission does not believe that inclusion of this term is appropriate because it would make the rules too subjective, resulting in difficulties in enforcement due to differing interpretations about what constitutes “normal operations.”**

Although TCC previously recommended the language proposed in §115.725(a) and (c), TCC provided a revised recommendation to the commission to strike the term “maximum potential” and replace it with

the phrase “maximum expected during normal operations.” TCC asserted that the term “maximum potential” may imply testing would be required during “abnormal” events. ExxonMobil provided a similar comment.

**It is not the commission’s intent to require vent testing of emissions during operations which would be considered an emissions event or scheduled maintenance, startup, and shutdown activities, as defined in §101.1. Therefore, the commission has revised §115.725(a) and (c) accordingly.**

Dow commented that the commission should not amend §115.725(a) to require “maximum potential” emissions data, but should allow representative operating rates with a required adjustment if the facility exceeds  $\pm 10\%$  of the tested rates. Dow stated that the adjustment could be based on a retest or on engineering calculations used in conjunction with the original test.

**The commission revised the rule language in §115.725(a), but did not incorporate Dow’s suggested language. The commission determined that process knowledge utilizing scientific calculations and other process monitoring data may be used to determine hourly HRVOC emission data from vent gas streams which are not routed to a flare. Types of processes which may use process knowledge in lieu of actual testing are analyzer vents, pressure relief valves, steam system vents, or vent gas streams where there is no HRVOC present, except during emissions events.**

TCC commented on §115.725(a) and stated that it typically considers pressure relief valves to be a fugitive source; and therefore, should not be referenced in rules related to vents.

**As TCC suggested, emissions from pressure relief valves are considered to be fugitive emissions when the emissions are associated with the re-seating of the pressure relief valves or other leaks around the seals (e.g., valve stems) resulting from overpressurization. However, when the process pressure is enough to overcome the pre-set pressure release point of the pressure relief valve and emissions are released either directly to the atmosphere or to a control device, the release from the pressure relief valve is considered to be a vent gas stream and the emissions may be considered unauthorized. These unauthorized emissions associated with an emissions event must at least be recorded under the 30 TAC Chapter 101 emissions event rules. However, if the unauthorized emissions are not associated with an emissions event, then the commission will allow process knowledge to estimate the emissions for the purpose of demonstrating compliance with the site-wide cap or demonstrating satisfaction of exemption criteria.**

ExxonMobil, Valero, and TxOGA provided suggested revisions to §115.725(a) to add language allowing the use of process knowledge instead of testing. TCC similarly recommended expanded language regarding the use of process knowledge to include circumstances when there is typically no HRVOC present or for intermittent streams where testing may not be representative of the actual stream. Dow also commented that the use of process knowledge in §115.725(a) should be expanded to include the documentation of exemptions and other small sources. Dow stated that the proposed changes to §115.725(a) regarding the use of process knowledge to estimate emissions from pressure

relief valves should be expanded to allow the use of test data and process knowledge to estimate emissions. Dow suggested an alternative be added to §115.725(b).

**The original Chapter 115 HRVOC rules adopted in the January 3, 2003 issue of the *Texas Register* (28 TexReg 161) were developed to reduce HRVOC emissions in order to provide an air quality benefit to compensate for a 10% decrease in the established 90% nitrogen oxide reduction strategy for industrial sources. The HRVOC rules were designed to be performance-based, emphasizing monitoring, recordkeeping, reporting, and enforcement rather than individual emission rates. Obtaining actual data concerning HRVOC emissions is key to fulfilling this SIP commitment. Therefore, in general, allowing estimated emissions based simply on process knowledge would not necessarily provide the commission with necessary data in most cases to demonstrate compliance with the rule. It is the commission's position that if a source can be tested, it should be tested. The commission understands that in certain specific cases, process knowledge will provide a more accurate estimation of emissions; therefore, the commission revised §115.725(a) to allow the use of process knowledge for specific cases. Specifically, sources may determine emissions using process knowledge if the process knowledge utilizes scientific calculations and process parameter monitoring. Types of processes which may use process knowledge in lieu of actual testing are analyzer vents, pressure relief valves, steam vents, and streams where there is no HRVOC present, except during emissions events.**

TCC suggested adding an additional subsection in §115.725 to address its concerns regarding low-density polyethylene plants. TCC suggested that for vent gas streams associated with low-density

polyethylene products, a polymer sample could be taken at or before the first vent to the atmosphere and at subsequent emission points as defined by a periodic test plan.

**The commission has not made the suggested change, but instead has added §115.725(f), which allows alternative test methods that have been validated under 40 CFR 63, Appendix A, Test Method 301 and approved by the executive director. Test Method 301 is used whenever a source owner or operator proposes a test method in the absence of a validated method. This method includes procedures for determining and documenting the quality, i.e., systematic error (bias) and random error (precision), of the measured concentrations from an affected source. For the purposes of this paragraph, “executive director” is substituted in each place that Test Method 301 references “administrator” because EPA approval is not required to validate a method under §115.725(f).**

ExxonMobil, Valero, TCC, and TxOGA suggested additional language in §115.725(a) to allow the testing of a single vent gas source to represent sources with the same potential for emissions without separate testing.

**The commission added a new §115.725(g), which allows the executive director to waive testing for no more than one-half of the vents that are identical in design and operation, if the owner or operator can demonstrate that certain vents are identical in design and operation and the emissions from those vents can be expected to be identical. This change will provide flexibility to address situations identified by ExxonMobil, Valero, TCC, and TxOGA in their comments.**

TCC and Dow opposed the language in §115.725(c) regarding 45-day notification to the appropriate commission regional office. TCC stated that industry should be allowed to use test data acquired prior to the approval of the QAP regardless of a historical agency notice period and that such language is unnecessarily restrictive. Dow commented that the 45-day notification requirement is arbitrary and does not address the credibility of the test. ExxonMobil and Valero recommended striking the proposed notification requirement in §115.725(c) which would provide the appropriate regional office with an opportunity to observe the testing. TxOGA provided similar comments.

**Forty-five day notification is the standard notice requirement for air permits; however, the commission recognizes that testing conducted for the purposes of compliance with a permit or other commission rules may be sufficient for the purpose of this rule if the data has been approved by the executive director. Therefore, the commission has revised §115.725(c) accordingly.**

Dow commented that flares meeting the required monitoring in §115.725(d) and (e) should not also require a compliance demonstration under 40 CFR §60.18 for Subchapter H, Divisions 1 or 3, when the flare is under dual regulations. Dow suggested adding the following language to the end of §115.725(a), “*Flares meeting the requirements of §115.725(d), (e) are not required to have a separate compliance demonstration.*” Dow further stated that online monitoring will continuously demonstrate compliance with the minimum heating value and exit velocity requirements of 40 CFR §60.18, which makes a one-time compliance demonstration unnecessary.

**The commission revised §115.785 to specify that flares complying with §115.722(b) and §115.725 are exempt from the testing requirements of Subchapter H, Division 3, in order to avoid duplicative testing.**

TCC, ExxonMobil, Valero, and TxOGA commented that the flare flow monitoring accuracy requirements of §115.725(d)(1) may be difficult to achieve and provided the following suggested language to modify these requirements: *“The monitors shall be calibrated on an annual basis to meet the following accuracy specifications: the flow monitor shall be  $\pm 5\%$  of the flow meter range or whatever can be achieved by the specific technology, etc.”* Dow provided similar comments and also commented that location of the monitoring system after the knock-out pot is sometimes inappropriate for various operational scenarios. Dow stated that the requirement for a single meter is not always practical or optimum and suggested that multiple meters can be applied without any loss of accuracy. Dow suggested that instead of annual calibration, monitors should be periodically verified as specified in a QAP.

**The statement “whatever can be achieved by the specific technology” is not specific enough to be enforceable. The commission agrees that multiple meters can be used. The rule specifies that monitoring systems will be used, but does not specify how many monitors should be used to obtain the required data. It is the commission’s understanding that for some flares the maximum potential flow to the flare only occurs in rare events and monitoring the full range of potential flow may require multiple flow monitors. The commission agrees that it may be overly burdensome to require the installation of additional monitors for the sole purpose of monitoring**

flow during events of high flow rate that rarely occur. Therefore, in these few cases, the proposed alternative means of determining the flare flow rate should address only those potential excursions that are beyond the operating range of the monitors. The owner or operator would still be required to install a system that monitors the typical flow rates of the flare, which should be below the maximum range of the monitor(s). Since it continues to be the goal of the commission to obtain actual data concerning the emissions of HRVOCs, this type of alternative will be limited to flares where excursions beyond the monitor's range will not exceed 1.0% of the annual operating time of the flare.

The commission agrees that there should be some flexibility with regard to the location of the monitoring system and revised §115.725(d)(1) accordingly to specify that the monitoring system may consist of one or more flow measurements at one or more header locations and must be capable of measuring the entire gas stream flow to the flare, i.e., all vent gas and supplemental fuel sources.

Although an installed verification of the accuracy of the flow monitoring systems is preferable, i.e., a relative accuracy test audit (RATA) of the flow monitor compared to a reference method test, the commission recognizes that the typical velocities in flare headers are below the detectable ranges of standard EPA reference methods for measuring flow. Other EPA reference methods could require re-piping or create flow obstructions in the flare header to temporarily install the reference method testing equipment. Additionally, a percent relative accuracy at extremely low velocities may be difficult to demonstrate and may require establishing an alternative absolute

**accuracy, such as within  $\pm 20\%$  relative accuracy (as is required by EPA in 40 CFR 60, Appendix B, as a performance specification for many monitors) or at an alternative level of  $\pm 5.0$  feet per second. Because velocities in most flare headers would be below such an absolute accuracy level of 5.0 feet per second except during emission events, most flow monitors would pass the RATA by default, thereby rendering the RATA meaningless. Therefore, the commission does not intend to require actual on-line verification of flare flow monitors until a reference method suitable for measuring flow in flare headers is determined. Furthermore, the commission does not intend that regular annual calibration of flow monitors should require actually removing the monitors from service. The annual calibration of the flow monitors should be an installed, on-line verification that the monitor is operating within the manufacturer specifications. The initial off-line calibration of the monitor to meet 5.0% at flow rates equivalent to 30%, 60%, and 90% of full scale shall serve as the demonstration of the monitor's accuracy and linearity, until such time as an online verification procedure is developed and approved.**

RMA commented on §115.725(d)(2) concerning the need for an on-line analyzer and the determination of the net heating value at bulk liquid storage facilities and marine terminals that receive, store, and transfer refrigerated liquid propylene, butadiene, and 1-butene. RMA stated that these products are virtually pure HRVOC and that the associated vapors being routed to a flare during non-routine conditions are extremely high mole-percent HRVOC. RMA commented that there is no need for a gas chromatograph to speciate for HRVOC determination purposes and asserted that there is no need to calculate net Btu to ensure compliance with 40 CFR §60.18 when dealing with such high purity HRVOCs, because the combustion efficiency is known to be sufficient. RMA suggested revising the

rule to allow the executive director to approve alternatives to monitoring such as the use of engineering and thermodynamic data for stream composition and net heating value.

**RMA's suggested alternative to monitoring cannot be approved under §115.725(d)(8), because it is neither a minor modification to a test method nor a monitoring method that could be validated by 40 CFR Part 63, Appendix A, Test Method 301. Rather, the alternative would use calculations in lieu of the required monitoring. The intent of the rule is to obtain measured data whenever possible; therefore, the commission declines to make the suggested changes to §115.725(d)(2) at this time. However, many of the commenter's issues have been addressed in the exemptions in §115.727. Moreover, loading facilities are allowed alternative monitoring that does not require online speciation as specified in §115.725(e). Finally, the commission revised §115.725(d)(8) to specify that for the purposes of this paragraph, "executive director" is substituted in each place that Test Method 301 references "administrator," because EPA approval is not required to validate a method under Test Method 301.**

TCC, ExxonMobil, Valero, and TxOGA suggested changes to §115.725(d)(2), concerning flare on-line analyzer calibration and monitoring constituents, to exclude the language regarding other potential constituents and to revise the on-line analyzer measurement capability from 15 minutes to 30 minutes. Dow suggested striking the list of potential constituents and analyzing those other constituents if their concentration is expected to be present at a level of 1.0 mole percent or greater under normal conditions. Dow also suggested language to allow flexibility regarding where to sample on the flare

header. TCC stated that the use of direct Btu measurement should be allowed as an alternative for monitoring Btu content.

**The commission determined that 15 minutes is the minimal frequency for data collection by a continuous monitor. Title 40 CFR §60.13(e)(2) specifies that continuous monitoring systems must complete a minimum of one cycle of operation for each successive 15-minute period; therefore, the commission is retaining the 15-minute requirement. However, the commission revised §115.725(d)(2) to specify that the on-line analyzer system shall be capable of measuring, at least once every 15 minutes, other potential constituents (e.g., hydrogen, nitrogen, methane, carbon dioxide, and VOCs other than HRVOCs) sufficient to determine the molecular weight and net heating value of the gas combusted in the flare to within 5.0%. To satisfy this requirement, owners and operators may determine on a case-by-case basis what constituents must be monitored to achieve this objective. Owners and operators can decide to under-report the heating value, which would occur to some degree if, for example, carbon monoxide is not monitored. However, once an owner or operator elects to do so, the contribution from carbon monoxide that they ignored cannot subsequently be claimed in an effort to resolve a noncompliance situation resulting from not meeting minimum net heating value requirements. The commission acknowledges that some flare system designs cannot accommodate the monitoring location requirements and revised §115.725(d)(2) to state that samples shall be collected from a location on the main flare header such that the measured constituents, including any supplementary fuel, is representative of the combined gas combusted in the flare system. Owners or operators may request to use an on-line calorimeter to determine net heating value as an alternative method under §115.725(d)(8).**

**The commission continues to study the science associated with the HGA photochemical reactivity to ensure that all compounds which contribute significantly to ozone formation in the HGA ozone nonattainment area have been identified and controlled to the degree necessary to achieve attainment with the ozone standard. In future rulemaking, the commission may propose to regulate additional compounds as HRVOCs if additional HRVOC emission reductions are found to be necessary to achieve attainment of the ozone standard. Consequently, owners and operators may wish to design their monitoring systems with consideration given to the potential future need for additional speciation.**

TCC, ExxonMobil, Valero, and TxOGA suggested changes to §115.725(d)(4) regarding sampling procedures during monitor downtime. The commenters stated that sampling every four hours is too frequent and suggested daily sampling. The commenters also suggested that in some cases sampling at a location after the knock-out drum could potentially expose the operator to risk and suggested that a representative sampling location should be reviewed for approval in the test plan. Dow provided similar comments.

**The commission agrees that additional flexibility for sampling procedures during monitor downtime is warranted. Therefore, the commission revised §115.725(d)(4) accordingly to specify that during any period of on-line analyzer downtime exceeding eight consecutive hours, the owner or operator must take a sample daily starting within 24 hours of the initial on-line analyzer malfunction.**

TCC, ExxonMobil, Valero, and TxOGA suggested changes to §115.725(d)(5) regarding net heating value determinations. The commenters stated that compliance with the requirements for minimum Btu and exit velocity for flares should be by hourly average of values.

**The commission agrees and revised §115.725(d)(5) accordingly to specify that the average net heating value over a one-hour block period is used to demonstrate compliance with the minimum net heating value requirements of §115.722(b).**

Dow stated that the basis for compliance with the flare heating value and exit velocity should be one-hour averages of the 15-minute data points and therefore suggested changes to §115.725(d)(5) and (7). Dow commented that compliance should not be based on a 15-minute data point, but a one-hour average of the 15-minute data points.

**The commission agrees with the comment and revised the rule language accordingly.**

TCC, ExxonMobil, Valero, and TxOGA suggested changes to §115.725(d)(6) regarding flare destruction efficiency. The commenters stated that the commission should develop a negotiated standard for flare destruction efficiencies for HRVOCs or should allow facilities to use factors that have otherwise been approved by either the commission or by EPA. Dow stated that the commission's *Air Permit Technical Guidance for Chemical Sources: Flares and Vapor Oxidizers* document should be used and that the current rule contradicts previous guidance and air permits on destruction and removal

efficiency of 99% for propylene and ethylene. ExxonMobil, Valero, and TxOGA stated that the comments they provided for §115.725(d)(6) are also applicable to §115.725(e)(4).

**The commission appreciates the comment. According to Table 4 of the commission's *Air Permit Technical Guidance for Chemical Sources: Flares and Vapor Oxidizers*, RG-109 (October 2000 (Draft)), a flare destruction efficiency of 99% has been established "for compounds containing no more than 3 carbons that contain no elements other than carbon and hydrogen in addition to the following compounds: methanol, ethanol, propanol, ethylene oxide and propylene oxide." Therefore, the commissions agrees with the commenters that the flare destruction efficiency should be raised to 99% for ethylene and propylene and revised §115.725(d)(6) and (e)(4) accordingly. However, the flare destruction efficiency for all other compounds will remain at 98%, assuming that the flare is in compliance with the heating value and exit velocity requirements of 40 CFR §60.18. Adequate justification was not provided by the commenters for raising the destruction efficiency to 95% when a flare is not in compliance with the heating value or exit velocity requirements of 40 CFR §60.18. Therefore, when a flare is not in compliance with the heating value or exit velocity requirements of 40 CFR §60.18, the destruction efficiency will remain at 93%.**

**In addition, the net heating value of the gas combusted in the flare and the flare exit velocity have an immediate effect on destruction efficiency. Therefore, for demonstrating compliance with the mass emission rate cap of §115.722(a), the commission has specified that the mass emissions rate**

**should be calculated based on the lower destruction efficiency specified in the rule for those 15-minute periods where the flare is not in compliance with 40 CFR §60.18.**

**Although no changes were proposed, the commission revised §115.725(e)(4) to be consistent with §115.725(d)(6) as discussed earlier in response to this comment regarding flare efficiencies.**

TCC, ExxonMobil, Valero, TxOGA, and Dow suggested additional language in §115.725(d)(7) concerning exit velocity calculations and stated that the basis for compliance with the flare heating value and exit velocity should be one-hour averages of the 15-minute data points.

**The commission agrees with the comments and revised §115.725(d)(7) accordingly to specify that the average exit velocity over a one-hour block period is used to demonstrate compliance with the maximum exit velocity requirements of §115.722(b) in order to specify the basis for compliance determination.**

Dow suggested the addition of a new §115.725(f) to establish a set of alternative monitoring requirements for flares with known amounts of HRVOC venting to the flare(s) and provided suggested language.

**The commission declines to make the suggested changes because these changes are contrary to the intent of the rule, which is to obtain measured data. Obtaining actual data concerning emissions of HRVOCs is key to fulfilling the commission's SIP commitment. Therefore, in general, allowing**

**estimated emissions based simply on process knowledge would not necessarily provide the commission with necessary data in most cases to demonstrate compliance with the rule.**

Dow stated that a new §115.725(g) should be added to the rule to allow for reduced monitoring for temporary flares.

**The commission declines to make the suggested change in the current rulemaking because it is beyond the scope of the proposed revisions to §115.725. In order to provide this reduction in monitoring, the commission would have had to propose an alternative method of determining emissions during temporary HRVOC service in order to quantify the emissions to demonstrate compliance with the site-wide cap. Affected parties did not have an opportunity for notice and comment on these potentially significant changes. However, the commission may evaluate the suggested changes in the future and, if appropriate, consider them for possible inclusion in future rulemaking.**

TCC, ExxonMobil, Valero, and TxOGA stated that §115.726(a) should be revised to specify that two separate plans are required: a test plan for testing and a QAP for monitoring.

**The commission agrees that the rule should directly state that two test plans are required and revised §115.726(a) accordingly.**

TCC suggested changes to §115.726(a)(1)(C) to require the executive director to issue a written response to each QAP within 45 days of receipt instead of the proposed 180-day turnaround time.

ExxonMobil, Valero, and TxOGA stated that the proposed 180-day turnaround time for the commission to review a QAP should be reduced to 60 days. ExxonMobil, Valero, and TxOGA commented that a longer review time will delay implementation of projects to install monitoring facilities.

**As stated in the preamble of this rule, the language in §115.726(a)(1)(C) is aimed at encouraging the timely submittal of QAPs; however, commission staff will need adequate time to review each plan. The 180-day time frame imposed on commission staff was developed to provide industry with a commitment that a QAP will be reviewed and a response will be issued no later than 180 days following receipt of a plan. This information can be used at an owner or operator's discretion to determine the best time to submit a QAP. Therefore, no change has been made in response to this comment.**

TCC suggested removal of the terms “complete” and “without deviation” in reference to QAPs and test plans in §115.726(a)(1)(C) and(2)(C).

**The commission agrees with the commenter's suggestion to remove the term “complete.” In the event that a deficiency letter is issued by the commission, the deficiency could imply that the application was not “complete” when submitted and therefore in violation of the requirement. This was not the commission's intent; therefore, §115.726(a)(1)(C) and(2)(C) have been revised accordingly. However, the commenter's proposed deletion of the term “without deviation” in**

**§115.726(a)(2)(C) was not made. This term is necessary to specify that only plans which state that the proposed testing will be conducted in accordance with the appropriate reference methods and procedures specified in §115.125 may be approved via the 45-day default. Section 115.125(4) and (5) both require approval by the executive director for any modification or alternation to the test plan.**

ExxonMobil, Valero, and TxOGA commented on §115.726(a)(2)(C) stating that if a test plan has proposed deviations from reference methods and procedures in §115.125, then the 45-day commission review period should be extended up to 60 days. ExxonMobil, Valero, and TxOGA expressed satisfaction with the proposed 45-day turnaround time for test plans without deviations. ExxonMobil, Valero, and TxOGA suggested additional language including extending the time an owner or operator has to submit a corrected test plan from the proposed 15 days to 45 days.

**Because test plans which include proposed deviations from the reference methods and procedures in §115.125 cannot be approved via the 45-day default time period, the 45-day time period does not apply. Therefore, the commission has not made the suggested change to 60 days. However, the commission agrees that the time frame the owner or operator has to submit a corrected test plan can be increased, and revised §115.726(a)(2)(C) by extending the time from 15 to 45 days. Forty-five days should allow the owner or operator to make any necessary corrections and still allow the commission to review and approve the test plans in a timely manner.**

Allied commented that §115.726(b) should be revised to specify that flares exempted in §115.727(b) are not required to submit a test plan or QAP for testing and monitoring requirements in §115.726(a).

**The exemption in §115.727(b) exempts flares from continuous monitoring requirements; however, the exemption further states that the gas stream directed to the flare shall be treated as a vent gas stream for the purposes of determining compliance with the site-wide cap. Therefore, a vent gas stream containing more than 100 ppmv HRVOC would be required to comply with the testing requirements of §115.725(a). No change was made in response to this comment.**

TCC, ExxonMobil, Valero, and TxOGA stated that this rule does not require any corrective actions; therefore, §115.726(c)(3) regarding the maintenance of records of corrective actions should be deleted.

**The commission has amended the rule language to further explain the corrective action recordkeeping requirements in §115.726(c)(3). The rule language in §115.725(d)(3) requires monitoring systems to be operated at least 95% of the time when the flare is operational. Therefore, the recordkeeping requirements in §115.726(c)(3) specify documentation of the corrective actions taken to bring a monitoring system back on-line including why and how long a monitoring system was off-line, an explanation of any delays in restoring a monitoring system, and the estimated quantity of all HRVOC emissions during the down time.**

TCC, ExxonMobil, Valero, and TxOGA stated that they believe the term “continuous” should be deleted in §115.726(d)(3)(A) regarding vents and §115.726(d)(3)(B) regarding flares, and asserted that

industrial plants should not be required to maintain continuous records of exempted streams and that the test plans should document the exemption basis. Allied commented that “continuous” compliance with the exemption criteria in §115.727(f) should not be required as it may suggest that continuous emission monitoring is required for exempted flares.

**The new §115.726(d)(3) requires the owners or operators of vent gas streams and flares that have no potential to emit HRVOC to maintain records demonstrating that they have no potential to emit HRVOC. If any changes to the equipment or to the process that could affect the potential to emit HRVOC are subsequently made, the owner or operator would need to document the changes and update the records to demonstrate continued compliance with the exemption. Similarly, it is the commission’s intent to ensure that the requirements of §115.727(f) are met at all times; therefore, the commission declines to make the change suggested by the commenters.**

Allied commented that the proposed rules should be revised to specify the recordkeeping requirements which are applicable to flares, and recommended that §115.726(d)(3) be separated into two sections for vent gas streams and flares.

**The requirements of §115.726(d)(3) are further defined in §115.726(d)(3)(A) for vents and §115.726(d)(3)(B) for flares; therefore, no changes were made in response to this comment.**

TCC, ExxonMobil, Valero, and TxOGA suggested the deletion of the phrase “and other records” from §115.726(f), indicating that all necessary records are listed in the rule. Allied provided similar comments.

**The phrase “and other records” was used to provide the owner or operator with some flexibility to demonstrate compliance with this rule. For example, “other records” could include an operating log, which may help an owner or operator demonstrate that specific sources are in compliance. Contrary to the comments received, all necessary records are not listed in the rule. Due to the differences in operations, the documentation necessary to demonstrate compliance with the rule may also be different. Because these records are not further defined, the owner or operator cannot receive a clerical violation for failing to have a specific “other record.” However, the owner or operator can receive a clerical violation for inadequate maintenance of data, documents, notifications, plans, or reports, as necessary to demonstrate compliance with the rule. This is consistent with commission permit provisions and enforcement policies. No changes were made in response to this comment.**

Goodyear commented on the exemptions in §115.727, stating that the requirement for continuous monitoring of smaller sources is too stringent and that the cost-benefit is too low. Goodyear suggested that for sites contributing less than 1.0% of total HRVOC emissions in HGA, a periodic monitoring option, such as twice per week (speciation of HRVOCs) should be provided.

***De minimis* criteria in §115.727 has been provided to exempt smaller sources. The commission is unable to identify sources contributing less than 1.0% of total HRVOC emissions in HGA with any degree of certainty as Goodyear suggests, because most of these sources are not presently monitored and their respective percentage of HRVOC is uncertain. As demonstrated by the results of the Texas 2000 Air Quality Study, total VOC and HRVOC emissions are not currently known with the degree of certainty necessary to establish a sound basis for such an exemption.**

TCC, ExxonMobil, Valero, and TxOGA suggested changes to §115.727(a) and stated that the commission should not link both vents and flares to the cap exemption and suggested that each source should receive a separate exemption. The commenters also provided language stating that the exemption criteria should apply to vent gas streams “under normal operating conditions.”

**Individual exemptions are addressed in other subsections in §115.727. The suggested term “normal operating conditions” is difficult to define; therefore, it is the commission’s position that inclusion of this term would make the rules too subjective and result in difficulties in enforcement due to differing interpretations about what constitutes “normal operating conditions.” This term is used in §115.785(4). The commission's intent is that testing be conducted to establish maximum potential hourly HRVOC emissions data expected during any operation not defined as an emissions event or a scheduled maintenance, startup, or shutdown activity under §101.1. Therefore, as described later in this preamble, §115.785(4) has been revised accordingly to include the same language concerning maximum HRVOC emissions as §115.785(5) and §115.725(a) and (c).**

TCC, ExxonMobil, Valero, and TxOGA suggested that §115.727(a) be changed to avoid using double negatives in the same clause.

**The commission appreciates the comment and revised §115.727(a) accordingly.**

TCC, ExxonMobil, Valero, and TxOGA suggested that the 5.0% determination in §115.727(b) should not include maintenance and emissions events. TCC requested that the commission clarify whether the 5.0% threshold is based on weight percent and if the threshold is applicable to the total flare gas stream or to each individual vent gas stream routed to the flare.

**The commission intends for measurements to be made at all times, including emissions events and scheduled startup, shutdown, and maintenance activities, and that the 5.0% threshold be determined in percentage by weight as is consistent with other parts of this rule. Furthermore, the 5.0% threshold is based on the total flow to the flare, not the individual vent gas streams routed to the flare.**

TCC suggested changes to §115.727(b)(1) including the removal of the phrase “The gas stream directed to the flare shall be treated as a vent gas stream for purposes of determining compliance with the site-wide cap of §115.722(a) of this title.” TCC maintained that this requirement is overly restrictive.

**The commission intends for the HRVOCs associated with the gas stream directed to the flare to be accounted for in determining compliance with the site-wide cap. Therefore, no changes were made in response to this comment.**

Allied commented that flares exempted in §115.727(b) should not be required to submit a test plan or QAP for testing and monitoring requirements. Allied suggested that either §115.727(b) be revised to expressly provide that flares exempted under that provision are not subject to the requirements in §115.726(a), or that §115.726(a) be revised to state that its requirements are applicable to the owner or operator of each flare that is subject to the monitoring and testing requirements in §115.725.

**The commission agrees that flares exempted in §115.727(b) should not be required to submit a QAP for the monitoring requirements because monitoring is not required for these exempted flares. However, a test plan is still required which is consistent with the requirement that it be treated as a vent gas stream in §115.725. The commission appreciates the comment and revised §115.727(b) accordingly.**

TCC, ExxonMobil, Valero, and TxOGA commented that adding the term “normal business operations” in lieu of the proposed “at all times” in §115.727(e)(2) would ensure that maintenance and emissions events are not included.

**The suggested term “normal business operations” is difficult to define; therefore, it is the commission’s position that inclusion of this term would make the rules too subjective, resulting in**

**difficulties in enforcement due to differing interpretations about what constitutes “normal business operations.”**

TCC stated that documentation of the exemption should be the only recordkeeping requirement in §115.727(e)(3) and requested deletion of the wording “with the exception of the recordkeeping requirements of §115.726(d)(3) of this title.”

**The commission disagrees. All of the documentation described in §115.726(d)(3) is necessary to demonstrate compliance with the exemption. The new §115.726(d)(3) requires the owners or operators of vent gas streams and flares that have no potential to emit HRVOC to maintain records demonstrating that they have no potential to emit HRVOC. If there are any subsequent changes to the equipment or to the process that could affect the potential to emit HRVOC, the owner or operator would need to document the changes and update the records to demonstrate continued compliance with the exemption. Therefore, no changes were made in response to this comment.**

ExxonMobil, Valero, and TxOGA commented that vent gas streams exempted in §115.727(e)(3) should not be counted toward the exemption limit in §115.727(e)(2).

**The commission agrees with the comment. Each exemption is evaluated individually; therefore, it is sufficient for a gas stream to meet a single exemption without consideration of other**

**exemptions. In order to highlight that each exemption is considered separately, the commission revised §115.727(e) accordingly.**

TCC, ExxonMobil, and Valero provided the following vent gas streams they deemed should be exempt in §115.727(e)(3) and reasons why they believed these sources should be exempt: combustion sources, analyzer vents, steam system vents, tank conservation vents or other vents on atmospheric storage tanks or drums, olefin decoke vents, carbon canister systems, wastewater vents, and other gas streams that originate from a source regulated under another division of Chapter 115 where established control requirements and emission specifications apply. TCC commented that the floating roof on a tank should not be considered a vent for the purposes of this rule. Dow stated that additional sources, such as incinerators and vapor oxidizers, should be added to the exemptions in §115.727(e)(3)(A) because they are insignificant sources. Dow further suggested the following sources should be classified as exempt under §115.727(e)(3)(E) - (J): flare exhaust streams, cooling towers, fugitive emission leak sources, gas streams exiting an analyzer, pressure relief valve device discharges, and steam vents. ExxonMobil and TxOGA stated that certain combustion sources typically have very low VOC emissions, and therefore, even a significant percentage of HRVOC in the fuel would have insignificant emissions. ExxonMobil and TxOGA commented that an exemption based on the estimated HRVOC emissions on a mass basis should be added to §115.727(e)(3)(A) to minimize unnecessary monitoring of insignificant sources. ExxonMobil and TxOGA suggested revising the exemption to include boilers, furnaces, engines, turbines, and heaters fired with fuel containing less than 10% HRVOC, or with estimated HRVOC emissions less than 0.1 pounds per hour. Valero provided similar comments.

The commission revised §115.727(e) to exempt atmospheric storage tanks, wastewater system vents, cooling towers, and equipment leak fugitive components, because they were not included in the site-wide cap and are currently regulated in other subchapters of Chapter 115. Furthermore, emissions from pressure relief valves, which occur when the process pressure is sufficient to overcome the preset pressure relief point of the pressure relief valve and emissions are either released directly to the atmosphere or routed to a control device, are not exempt from the requirements of Subchapter H, Division 1, because they are considered to be vents which are included in the site-wide cap. The commission determined that combustion sources (other than boilers, furnaces, engines, turbines, and heaters), analyzer vents, steam system vents, olefin decoke vents, carbon canister systems, and other gas streams that originate from a source regulated under another division of Chapter 115 should not be exempt under §115.727(e)(3), because in some cases these sources can be significant and it was the commission's intent to include these types of sources in the site-wide cap. However, a demonstration may be made through testing or process knowledge that other exemptions apply such as in §115.725(b)(2). The commission also determined that the suggested 10% HRVOC or 0.1 pound per hour exemption could be significant in some cases. In addition, the site-wide caps will have to be revised separately at a later date to remove HRVOC emissions associated with the new exemptions and other emission sources that should not have been included in the caps.

Dow supported the new exemption in §115.727(e)(2) as an efficient means to manage other very small sources. However, Dow suggested that the language be revised to provide an exemption from the

entire division (excluding the recordkeeping requirements of §115.726(e)(3)), rather than providing an exemption from only §115.725 and §115.726(a).

**The commission agrees with the commenter that these vent streams can be excluded from the site-wide cap, and therefore, should only be subject to the recordkeeping requirements necessary to demonstrate compliance with the exemption. The commission revised §115.727(e)(2) accordingly.**

TCC, ExxonMobil, Valero, and TxOGA suggested adding a *de minimis* value of 2.0 pounds per day regarding flares that have no potential to emit HRVOC in §115.727(f).

**The rule proposal preamble noted that certain exemptions are appropriate in order to exclude sources for which monitoring and testing for HRVOC would be impractical due to the owner's or operator's certainty that HRVOCs would be present in low concentrations or would not be present at any time. Because HRVOCs can be detected at extremely low concentrations, the commission specifically sought detailed comments on setting an appropriate level for allowing exemption from testing or monitoring. The commission was seeking comments on a *de minimis* concentration; however, the comments received are mass-based. A 2.0 pound per day value is significant relative to the size of some of the site-wide caps and the number of sources included in these caps.**

**Therefore, the commission declines to make the changes suggested by the commenters. However, the commission determined that a threshold of 100 ppmv HRVOC at any time in the total gas stream routed to the flare is a reasonable minimum detection limit and should be sufficient to indicate that a flare has an insignificant potential to emit. The commission revised §115.727(f)**

**accordingly to exempt any flare that receives a gas stream with less than 100 ppmv HRVOC at all times from the requirements of Subchapter H, Division 1, with the exception of the recordkeeping requirements of §115.726(d)(3).**

Dow commented that the proposed language in §115.727(e)(1) and (f), and by reference §115.726(d)(3), should not be added because the preamble to the rule adopted on December 13, 2002 indicated that this rule applies only to streams containing HRVOC.

**The addition of the new §115.727(e)(1) and (f) and associated recordkeeping is appropriate to provide exemptions for relatively insignificant HRVOC sources. The new recordkeeping requirement of §115.726(d)(3) is necessary in order to document compliance with the exemptions. Therefore, the commission made no changes in response to the comment.**

To provide an exemption for temporary flares used solely for maintenance, TCC, ExxonMobil, Valero, and TxOGA suggested the addition of a new §115.727(g) stating that “any flare brought into HRVOC service only during maintenance or repairs or similar activities is exempted from compliance with this division.” BASF provided similar comments.

**The commission declines to make the suggested changes in the current rulemaking because they are beyond the scope of the proposed revisions to §115.727. To provide this exemption, the commission would have had to propose an alternative method of determining HRVOC emissions during temporary HRVOC service in order to quantify the emissions to demonstrate compliance**

**with the site-wide cap. Affected parties did not have an opportunity for notice and comment on these potentially significant changes. However, language has been added in §115.725(e) to address the monitoring requirements for temporary portable flares used solely for abatement of emissions from scheduled maintenance or startup or shutdown activities and for flares used solely for the abatement of emissions from scheduled maintenance or startup or shutdown activities.**

**Temporary portable flares were not incorporated in the development of the site-wide caps.**

BASF suggested the addition of a new §115.727(h) to exempt flares, that only have the potential to receive HRVOCs during safety relief valve activation, from flow measurement and composition analysis requirements.

**Under §115.727(c) and (d), if a safety relief valve activates due to an emissions event or scheduled maintenance, startup, or shutdown activity, it is exempt from §115.722(a). It is the commission's intent that monitoring should continue during these events or activities; therefore, the commission made no changes in response to this comment.**

BASF suggested that additional exemption rule language is necessary in §115.727 to allow the executive director to exempt flares on a case-by-case basis.

**The commission provided exemptions which are sufficient to address a variety of situations without the need for a case-by-case evaluation. The commission may consider specific suggested changes and, if appropriate, consider them for possible inclusion in future rulemaking.**

TCC, ExxonMobil, Valero, and TxOGA suggested extending the compliance date in §115.729(1)(A) and (2) from the proposed date of December 31, 2004 to June 30, 2005.

**The commission agrees that additional time may be necessary to implement and comply with the monitoring and testing requirements, because there are a limited number of vendors that can supply the monitoring equipment necessary to comply with this rule. Therefore, it is the commission's position that more time is necessary to obtain and install the equipment. The compliance dates in §115.729(1)(A) and (2) have been extended to December 31, 2005 for testing and monitoring of vents and flares.**

TCC, ExxonMobil, Valero, and TxOGA commented that additional language should be added to §115.729 to provide a case-by-case extension for plants that need additional permitting to separate streams for compliance with this rule. TCC cited instances where a single flare is shared by one or more plants which are owned by one or more separate, legal entities. TCC suggested the addition of language allowing the executive director to approve an extension of the compliance date on a case-by-case basis.

**The commission provided a compliance date extension in the rule language as described in the response to the previous comment that should eliminate the need for a case-by-case compliance date extension. Therefore, the commission made no changes in response to this comment.**

*COOLING TOWERS*

TCC, ExxonMobil, Valero, and TxOGA stated that individual cooling tower heat exchange systems, not entire air accounts, should be subject to the division, and that §115.760(a) should be revised accordingly. TCC further stated that the commission should clarify the basis for applicability of the division requirements and justify the change from the original rule proposal. Koch suggested that §115.760(a) results in an applicability provision which places unnecessary monitoring and recordkeeping requirements on the owners and operators of cooling towers that do not emit or have the potential to emit “appreciable” levels of HRVOC.

**The commission agrees that placing monitoring requirements on cooling towers with insignificant amounts of HRVOC on the process side would be onerous. Therefore, language has been added to §115.764(a) and (b) to specify that the monitoring requirements apply to cooling tower heat exchange systems with greater than 100 ppmw in the process side fluid. The 100 ppmw is a reasonable minimum detection limit for appropriate standard analytical methods that may be used to demonstrate that the process fluids in cooling tower heat exchange systems have no detectable HRVOC. While an analysis of the process fluids to demonstrate “no detectable HRVOC” is not specifically required in the rule, it is a possible means by which a regulated facility may demonstrate that a cooling tower heat exchange system meets this *de minimis* exemption. No changes were proposed to §115.760; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. However, the commission may evaluate the suggested changes in the future and, if appropriate, consider them for possible inclusion in future rulemaking.**

BP stated that the commission should revise §115.764 to allow alternative cooling tower monitoring methods in lieu of monitoring systems that continuously determine total strippable VOC at the inlet of each tower. BASF provided similar comments, stating that an alternative to the cooling tower water monitoring path should be developed to allow the use of continuous HRVOC monitors in place of the continuous total strippable VOC monitoring requirements. BASF stated that if a continuous HRVOC monitoring path is selected, the periodic speciation of other VOCs should not be required.

ExxonMobil, Valero, and TxOGA also commented that an alternative for reasonable continuous speciated monitoring should be provided by adding a new §115.764(a)(6) specifying that *“in lieu of the monitoring of total strippable VOC in §115.764(a)(2) and the sampling for speciation of strippable VOC in §115.764(a)(4) and (5), a continuous monitoring of strippable VOCs using an online GC {gas chromatograph} that speciates ethylene, propylene, propane, butane, 1-3 butadiene, butylenes, and C5+ as n-pentane may be used.”* TCC also requested an alternative to continuously determine HRVOC concentration at the inlet of each cooling tower in lieu of the monitoring requirements in §115.764(b)(2),(4), and (5).

**The commission agrees with the comments because this method provides adequate information to determine compliance with the site-wide cap. Therefore, the commission has added an optional monitoring requirement in §115.764(a)(6) and (b)(6) which will allow the use of a continuous on-line HRVOC concentration analyzer. The on-line analyzer must be capable of determining HRVOCs at least once every 15 minutes. Owners or operators will not have to determine the total strippable VOC concentration nor the speciated strippable VOC concentration as required in**

**§115.764(a)(2), (4), and (5) and (b)(2), (4), and (5) if a properly installed, calibrated, operated, and maintained on-line HRVOC analyzer is used.**

Goodyear commented on the exemptions in §115.764 and stated that the requirement for continuous monitoring of smaller sources is too stringent and that the cost-benefit is too low. Goodyear suggested that for sites contributing less than 1.0% of total HRVOC emissions in HGA, a periodic monitoring option, such as twice per week (speciation of HRVOCs) should be provided.

**Goodyear did not provide a basis for its suggested 1.0% threshold; therefore, the commission has not implemented this as an exemption level. Efforts have been made to provide *de minimis* criteria in §115.764 to exempt smaller sources. The commission is unable to identify sources contributing less than 1.0% of total HRVOC emissions in HGA as Goodyear suggests, because most of these sources are not presently monitored and their respective percentage of HRVOC is unknown. Furthermore, if the commission were in a position to identify these sources and allow such an exemption, the commission would have few assurances that these sources are, in fact, consistently emitting less than 1.0% of the total HRVOC emissions in HGA. A large number of small exempted sources could cumulatively produce a considerable amount of HRVOC emissions that could significantly contribute to the formation of ozone in HGA. As a consequence, this exemption could potentially result in inadequate monitoring and ultimately result in a deficient plan for the area's attainment of the ozone standard due to insufficient emission reductions.**

Dow commented that the commission should allow flexibility regarding the use of flow meters for large cooling towers in exceptional cases where the main headers are buried or otherwise inaccessible, and four or more identical risers exist on the same cooling tower in §115.764(a)(1).

**To provide flexibility in compliance, the commission added a new §115.764(g) which allows an owner or operator to submit, for executive director approval, any minor modification to the monitoring methods prescribed in §115.764. However, any minor modifications to the monitoring requirements must be able to indicate, via additional testing or additional testing in conjunction with engineering calculations, that the final flow rates or concentrations are equivalent to the results that would have been obtained if the prescribed monitoring requirements of §115.764 would have been followed. Furthermore, the commission provides for the use of different monitoring methods than those specified in §115.764(a), (b), (e), and (f). However, the alternate monitoring methods must be approved by the executive director and must be validated by 40 CFR Part 63, Appendix A, Test Method 301. This validation does not have to be made for each individual cooling tower heat exchange system for the same compounds for which the method was validated. The Test Method 301 validation is for a specific monitoring method; therefore, if no additional modifications are made to an alternate monitoring method which has been validated by Test Method 301, then that alternate monitoring method can be used at any other cooling tower heat exchange system for the same compounds for which the method was validated.**

ExxonMobil, Valero, and TxOGA expressed a belief that 90% speciation of strippable VOCs is unjustified and that it requires additional monitoring costs. ExxonMobil, Valero, and TxOGA further

stated that speciation to identify ethylene, propylene, propane, butane, butylenes, 1,3-butadiene, and C5+ as n-pentane can be done on a single gas chromatograph run and will provide sufficient identification of HRVOCs. ExxonMobil, Valero, and TxOGA suggested revised language listing these compounds in §115.764(a)(4). Dow expressed concern with the requirement to perform a 90% speciation per §115.764(a)(4) in the event the total VOC exceeds 50 ppbw. Dow commented that the daily sampling for strippable VOC speciation triggered by the 50 ppbw exceedance should specify that HRVOC should be speciated, not all strippable VOC. Dow indicated that determining the 90% of total mass on a daily basis is onerous. Dow further suggested that the commission allow flexibility in selecting a sampling location in order to yield a representative concentration of HRVOC in the cooling water return and recommended changes to the monitoring requirements in §115.764(a)(2) and (5). TCC suggested revising §115.764(a)(5) and (b)(5) to require additional samples for the speciation of only HRVOCs.

**The commission agrees that the requirement for a monthly speciated strippable VOC sample requires additional monitoring costs. Therefore, §115.764 has been revised accordingly. The purpose of the rule is to regulate HRVOCs, not total VOCs. The additional speciation is not necessary to demonstrate compliance with this rule. Therefore, the rule has been revised to only require monthly speciated HRVOC rather than monthly speciated VOC samples. However, the HRVOC rules published in the January 3, 2003 issue of the *Texas Register* (28 TexReg 118) were written to address the findings of the Texas 2000 Air Quality Study and to fulfill obligations resulting from settlement of the Business Coalition for Clean Air (BCCA) Appeal Group's lawsuit styled BCCA Appeal Group, et al v. TNRCC {Texas Natural Resource Conservation**

**Commission}. The objective of this rulemaking was to achieve reductions in industrial VOC emissions, combined with an overall 80% reduction in nitrogen oxide emissions from industrial sources, which would result in the same level of air quality benefits as would be realized with a 90% reduction in nitrogen oxide emissions from industrial sources. Analysis of VOC and nitrogen oxide emissions is ongoing and may result in the need for additional speciation of HRVOC and/or the inclusion of additional compounds in the definition of HRVOC as part of an attainment demonstration SIP revision for the one-hour ozone standard and/or the forthcoming SIP revision to address the eight-hour ozone standard. Therefore, it may be beneficial for affected owners and operators to include as much speciation now as possible in their monitoring systems in order to reduce potential future monitoring costs.**

ExxonMobil, Valero, and TxOGA recommended changes to §115.764(a)(5) to provide a mass-based action level of 120 pounds per day instead of the existing 50 ppbw, for increased speciation monitoring for larger cooling tower heat exchange systems. TCC suggested striking the term “concentration” in reference to total strippable VOC and stated that the sampling should continue until the total strippable VOC drops below 100 pounds per day in lieu of the proposed 50 ppbw.

**The action levels recommended by the commenters are not appropriate because the mass rates would exceed a significant number of the site-wide caps for Harris County. Any mass rate action level would have to be a function of cap size as well as the number of sources within a particular site-wide cap. Therefore, the mass rate action level would be significantly different for each**

**account. It is the commission's position that concentration-based action levels are more appropriate. Therefore, the requested change has not been made.**

Lyondell suggested changes to §115.764(a)(5), and stated that the action level to initiate daily, speciated sampling should be based on HRVOC emission levels. Lyondell suggested that the best available control technology standard is an inlet concentration of 84 ppbw and should be used instead of 50 ppbw currently required in the rule. Lyondell asserted that the daily sampling frequency does not provide a practical benefit and suggested sampling every 48 hours. TCC provided a similar comment. Lyondell commented that the option of using an on-line analyzer capable of determining speciated HRVOC emissions should be allowed in lieu of the commission's Sampling Procedures Manual, Appendix P procedure. Furthermore, TCC recommended adding the following language for an alternative approach: *"If the monitoring option used in §115.764(a)(2) is capable of providing on-line speciation, the on-line system may be used to determine the concentration from the inlet of each cooling tower."*

**Sources that monitor total strippable VOC must have an action level based on total strippable VOC; however, the commission added the option in §115.764(a)(6) and (b)(6) to perform on-line HRVOC monitoring. When this option is applied, it removes the 50 ppbw action level and therefore the requirement to perform grab samples.**

**The commission has not revised the 50 ppbw trigger point to 84 ppbw as suggested by Lyondell. The 50 ppbw level is significantly above the required detection limit of the monitors and allows the owner or operator sufficient time to respond to potential leaks into the cooling tower water and to**

**conduct the required additional sampling. The requirement to obtain a daily sample once the 50 ppbw trigger point has been exceeded has not been revised. The daily sample is needed to provide the owners or operators additional information necessary to determine if the site is within its site-wide cap limits.**

ExxonMobil, Valero, and TxOGA suggested striking the term “concentration” in reference to total strippable VOC, and stated that the sampling should continue until the total strippable VOC drops below five pounds per day in lieu of the proposed 50 ppbw in §115.764(b)(5).

**As stated in a previous comment, it is the commission’s position that concentration-based action levels are more appropriate than mass rate action levels, so the requested change has not been made.**

TCC stated that the commission should add a new paragraph to §115.764 to allow alternative monitoring requirements to be approved by the executive director on a case-by-case basis. PAAI commented that alternative monitoring methods should be allowed.

**The commission added a new §115.764(g), which allows owners or operators to submit for executive director approval any minor modification to the monitoring methods prescribed in §115.764. However, any minor modifications to the monitoring requirements must be able to indicate, via additional testing alone or in conjunction with engineering calculations, that the final flow rates or concentrations are equivalent to the results that would have been obtained if the**

**prescribed monitoring requirements of §115.764 would have been followed. Furthermore, the new §115.764(g) provides for the use of different monitoring methods other than those specified in §115.764(a), (b), (e), and (f). However, the alternate monitoring methods must be approved by the executive director and must be validated by 40 CFR Part 63, Appendix A, Test Method 301. This validation does not have to be made for each individual cooling tower heat exchange system for the same compounds for which the method was validated. The Test Method 301 validation is for a specific monitoring method; therefore, if no additional modifications are made to an alternate monitoring method which has been validated by Test Method 301, then that alternate monitoring method can be used at any other cooling tower heat exchange system for the same compounds for which the method was validated.**

Citing their dependence on the abilities of outside laboratories to deliver the results within the specified time, Dow commented that the requirement in §115.764(c) to provide speciated strippable VOC analysis within 48 hours may be unattainable. Dow suggested extending the allowable time to gather the results to five business days from when the sample is taken. TCC, ExxonMobil, Valero, and TxOGA stated that the commission should change §115.764(c) to change the turnaround time for determining the speciated strippable VOC or HRVOC concentration from 48 hours to ten days.

**The commission agrees with the commenters that the requirement in §115.764(c), to determine the speciated HRVOC concentrations within 48 hours after collecting the samples, may be unattainable if an outside laboratory is used. Therefore, the commission revised §115.764(c) to require analysis of the samples no later than seven days after the sample(s) have been collected.**

**Appendix P requires that samples be either collected in either an internally passivated stainless steel canister or Tedlar™ bag. However, Appendix P requires that if samples are collected in a Tedlar™ bag, the sample must be analyzed within 72 hours of collection; therefore, the commission revised §115.764(c) accordingly.**

TCC stated that the language in §115.764(d) should be expanded to indicate that the QAP is for the monitoring equipment required by Subchapter H, Division 2, and further suggested that the commission strike the term “HRVOC,” referring to cooling towers in HRVOC service in §115.764(d)(2).

**The commission agrees that the QAP is for the monitoring equipment and revised §115.764(d)(2) to specify that the cooling tower heat exchange systems become subject to the requirement of this division after December 31, 2005, at least 60 days prior to being placed in service, not necessarily HRVOC service.**

TCC, ExxonMobil, Valero, and Dow commented on §115.764(d)(3) and stated that QAP approval dates should be reduced from the proposed 180 days to 45 days to maximize the time industrial plants have to meet the new regulatory requirements.

**As stated in the preamble of this rule, the language in §115.764(d)(3) is aimed at encouraging the timely submittal of QAPs. Commission staff will need adequate time to review each plan. The 180-day time frame imposed on commission staff was developed to provide industry with a commitment that a QAP will be reviewed and a response will be issued no later than 180 days**

**following receipt of a plan. This information can be used at an owner or operator's discretion to determine the best time to submit a QAP; therefore, no change has been made in response to this comment.**

TCC, ExxonMobil, Valero, Dow, and TxOGA stated that §115.764(e) should be revised to specify that monthly sampling is only required if all of the heat exchangers have less than 5.0 weight percentage of HRVOC and at least one of those heat exchangers has greater than or equal to 1.0 weight percentage of HRVOC.

**The comment would suggest a 1.0% exemption for all cooling tower heat exchange systems.**

**However, to properly address this comment, this exemption would have to be included in §115.768, for which no changes were proposed in this rulemaking. Therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. However, the commission may evaluate the suggested changes in the future and, if appropriate, consider them for possible inclusion in future rulemaking.**

TxOGA, ExxonMobil, and Valero commented that the language in §115.764(e) should be further revised to state that if the total HRVOC emissions from the cooling tower water is 25 pounds per day (striking the term "10 ppbw"), the owner or operator should determine total strippable VOC at least weekly (striking the term "daily") until the calculated emission of HRVOCs is below 25 pounds per day. TCC provided similar comments stating that if the total VOC emissions from the cooling tower water is 100 pounds per day (striking the term "10 ppbw"), the owner or operator should determine

total strippable VOC at least weekly (striking the term “daily”) until the calculated emission of HRVOCs is below 100 pounds per day.

**The mass rate action levels recommended by the commenters could be a significant portion of a site’s cap; therefore, these action levels are inappropriate. A concentration-based action level is more appropriate. The 50 ppbw level is significantly above the required detection limit of the monitors and allows the owner or operator sufficient time to respond to potential leaks into the cooling tower water and to conduct the required additional sampling. Therefore, the commission has revised §115.764(e) to reflect the 50 ppbw action level to be consistent with the other monitoring requirements of Subchapter H, Division 2.**

TCC, ExxonMobil, Lyondell, and Valero commented on §115.764(f). TCC and Lyondell stated the language should be revised to allow the use of calculated flow rate based on the manufacturer’s pump performance data or design curve, the monitored cooling water header pressure, and the number of pumps running instead of the proposed method using the maximum potential flow rate based on manufacturer’s pump performance data, assuming no back pressure. ExxonMobil, Valero, and TxOGA stated that the assumption of no back pressure imposes an unrealistic overestimation of circulation rates, and that although cooling water systems often have multiple circulation pumps, these pumps do not often run at the same time. Therefore, ExxonMobil, Valero, and TxOGA suggested revised language in §115.764(f) to reflect their respective positions. Dow suggested a new §115.765(g) to allow the option of using cooling water pump head differential pressure in conjunction with pump curve equations to calculate the flow rate of cooling water supply flow.

The commission retained the option to use the maximum potential flow rate based on the manufacturer's pump performance data, because this is a simple one-time constant number which can be used in the determination of the hourly emissions rate. However, the commission understands that this can be a very conservative number, and added §115.764(f)(2) as an additional alternative to the continuous monitoring of the flow rate.

This second alternative provides continuous cooling water flow rate data using a combination of the manufacturer's pump data (e.g., design curve), continuously measured and recorded system performance, and a continuous calculation system. A manufacturer's certified test must be performed to establish the pump curve. Water pressure at the discharge of each cooling water circulation pump shall be continuously measured and recorded to establish the cooling water system total dynamic head. The owner or operator of the cooling water system must design and demonstrate the accuracy of a system to calculate, on a continuous basis, the cooling water circulation flow rate, in gallons per minute, based on the measured data. This calculated flow rate will then be used to determine the hourly emission rate, in pounds per hour, as required by §115.767(a)(3).

In order to specify the recordkeeping requirements necessary to demonstrate compliance with the new §115.764(f)(2), the commission also added a new §115.767(f). Specifically, to determine the continuous flow rate of the inlet of each cooling tower, the new §115.767(f) requires the following records to be maintained for each pump: the continuous measurement of cooling water pump discharge pressure; the pump operating status; the motor manufacturer, model number, and

**rated brake horsepower; the impeller manufacturer, model number, size, and design; the manufacturer's certified pump performance test; and all pump maintenance that may modify the basis for design pumping capacity and the effect of those changes on the maximum potential flow rate.**

Dow commented that because the monitoring requirements in §115.764(a) and (b) require periodic analysis to determine the speciated strippable VOC concentration and the recordkeeping requirements in §115.767(a)(3) require that a record of hourly emissions for speciated HRVOC and total HRVOC be maintained, the commission should specify how to calculate hourly emissions of speciated HRVOC for the purposes of complying with §115.767(a)(3) and the emissions cap.

**The commission agrees with the comment and has revised §115.767(a)(3) and added language to the new §115.767(a)(6) to specify how to calculate hourly emissions of speciated HRVOC.**

TCC stated that the commission should revise §115.767(b) to add the term "normal operating conditions" and to strike the term "continuous" in the rule.

**It is the commission's intent to ensure that the requirements of §115.767(b) are met at all times.**

**The suggested term "normal operating conditions" is difficult to define; therefore, the commission maintains that inclusion of this term would make the rules too subjective, resulting in difficulties in enforcement due to differing interpretations about what constitutes "normal operating conditions."**

TCC stated that the specified detection limit in §115.766(2) should be based on ppmv, not ppmw, since the required analysis is done on the gaseous sample coming from the specified sampler. TCC suggested changes to §115.766(1) to specify a detection limit of ten parts per billion by volume for the monitor/analyzer required by §115.764(a)(2). TCC further suggested a ten parts per billion by volume detection limit in §115.766(2) for sample analysis required in §115.764(a)(2). ExxonMobil, Valero, and TxOGA commented that approval of alternate methods of monitoring should be revised in §115.766(2) and (3).

**It is the commission's intent to establish a detection limit in the cooling tower water. A gas phase minimum detection limit would require the commission to specify an exact monitoring procedure. The commission chose to provide flexibility for monitoring methods. In addition, the recommended ten parts per billion by volume gas phase detection limit recommended by the commenters would equate to parts per trillion by weight in the cooling tower water. No changes were proposed to §115.766; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking.**

TCC suggested that more descriptive language be added to §115.767(b) to provide better understanding of the rule. ExxonMobil, Valero, and TxOGA provided similar comments regarding §115.767(b)(1) and (2), but also suggested adding the term "design" before the term "records" to specify that design records are to be maintained for compliance with this rule.

**It is the commission's intent to require demonstration of compliance with this rule based on actual operations rather than design. Therefore, the commission declines to make the suggested changes.**

TCC, ExxonMobil, Valero, and TxOGA stated that the commission should revise §115.767(d)(1) to add the term "normal operating conditions."

**The term "normal operating conditions" is difficult to define; therefore, it is the commission's position that inclusion of this term would make the rules too subjective, resulting in difficulties in enforcement due to differing interpretations about what constitutes "normal operating conditions."**

TCC, ExxonMobil, Valero, and TxOGA suggested changes to §115.767(e)(1) to limit the records regarding changes to the cooling tower heat exchange system to only records reflecting changes that specifically affect the pump performance or capacity.

**The commission agrees with the comment because changes to pump performance or capacity are key parameters that affect the calculated emission rate. Therefore, the commission revised §115.767(e) and has made a similar notation in a new §115.767(f).**

TCC stated that the commission should revise §115.768(1), (2), and (4) and delete §115.768(3) in its entirety. ExxonMobil, Valero, and TxOGA commented that §115.768(1) and (4) should be revised. Dow commented that the commission should eliminate the continuous monitoring requirements for

cooling tower heat exchange systems in which each individual heat exchanger is operated with the minimum pressure on the cooling water side at least 5.0 pounds per square inch, gauge greater than the maximum pressure on the process side in §115.768(1). Koch commented that based on the current wording of §115.768(2), owners of cooling towers are prevented from making use of this exemption due to the possibility of a potential for some (undetectable) level of HRVOC in the process-side fluids. Koch suggested changing the language to add a *de minimis* of 1,000 ppm or 0.1%.

**The rule currently provides for a 5.0% by weight *de minimis* concentration to exempt accounts from the site-wide cap. Furthermore, language has been added to §115.764(a) and (b) to specify that the monitoring requirements apply to cooling tower heat exchange systems with greater than 100 ppmw in the process side fluid. The 1,000 ppm *de minimis* suggested by Koch would exceed some site-wide caps. Therefore, the 100 ppmw is a reasonable minimum detection limit for appropriate standard analytical methods that may be used to demonstrate that the process fluids in cooling tower heat exchange systems have no detectable HRVOC. While an analysis of the process fluids to demonstrate “no detectable HRVOC” is not specifically required in the rule, it is a possible means by which a regulated facility may demonstrate that a cooling tower heat exchange system meets this *de minimis* exemption. No changes were proposed to §115.768; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. However, the commission may evaluate the suggested changes in the future and, if appropriate, consider them for possible inclusion in future rulemaking.**

TCC stated that the commission should revise 30 TAC §115.769, Counties and Compliance Schedules, to allow compliance no later than July 1, 2005 rather than December 31, 2004. ExxonMobil, Valero, Dow, and TxOGA stated that the commission should revise §115.769 to allow compliance no later than June 30, 2005 rather than December 31, 2004.

**No changes were proposed to §115.769; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. However, a compliance date extension in §115.769 is scheduled to be proposed at the October 22, 2003 commission agenda (Rule Log Number 2004-008-115-AI).**

#### *FUGITIVE MONITORING*

Dow commented that §115.352(2)(A) should be revised for consistency with §115.782(c)(1)(B) and to clarify the commission's intent as stated in the preamble to the adopted rule published in the January 3, 2003 issue of the *Texas Register* (28 TexReg 161). Specifically, Dow stated that §115.352(2)(A) should be revised to state: "If the repair of a component *within 15 days after the leak is detected* would require a process unit shutdown *which would create more emissions than the repair would eliminate*, the repair may be delayed until the next scheduled process unit shutdown . . ."

**Because the suggested revision better defines the requirements in this rule, the commission revised §115.352(2)(A) accordingly.**

ExxonMobil, TCC, TxOGA, and Valero stated that §115.352(2)(A)(i)(I) should be revised to include startup emissions and maintenance emissions (i.e., those associated with clearing the unit) as part of the calculation comparisons.

**The commission agrees that this revision is necessary to ensure that the emissions from shutdown, maintenance, and subsequent startup of a unit for repair of leaking components are not greater than the emissions eliminated by the repairs. Therefore, the commission has revised §115.352(2)(A)(i)(I) accordingly.**

Dow stated that §115.352(2)(A)(i)(II) should be revised to use the 10,000 and 100,000 ppmv “pegged” emissions rates instead of recording a default pegged value of 500,000 ppmv, consistent with the EPA guidance document *Protocol for Equipment Leak Emission Estimates* (EPA-453/R-95-017, November 1995). Specifically, Dow commented that the first part of the following sentence is confusing: “Where the monitoring instrument is not calibrated to read past the leak definition or 100,000 ppmv . . .” and that the intent of this part of the sentence should be clarified. Dow also stated that its hydrocarbon gas analyzer has an upper dynamic range of 50,000 ppmv and that it should be able to use any reading between zero and 50,000 ppmv directly in the correlation equations. Dow further stated that if a pegged reading (above 50,000 ppmv) is obtained with or without a dilution probe, then the pegged emission rate should be used. Dow commented that if a dilution probe is used to extend the upper limit of the portable screening device, screening values can be reported up to 500,000 ppmv before pegging the instrument and the correlation equation can be used to estimate the mass emissions. Dow stated that if the instrument is only ranged to 10,000 ppmv, then the 10,000 ppmv pegged

emission rate should be used if a pegged reading (above 10,000 ppmv) is obtained without a dilution probe.

**The commission notes that §115.352(2)(A)(i)(II) does not require the recording of a default pegged value of 500,000 ppmv. Rather, the specified value is 100,000 ppmv. In addition, it is the commission's intent to obtain actual, monitored values or to use the highest value to encourage the recording of actual monitored values. Therefore, the commission declines to make the suggested changes.**

ExxonMobil commented on §115.352(2)(A)(i)(III) and stated that the main premise for limiting the amount of delay-of-repair components is that emissions from the delay should not exceed the emissions that would occur from taking an outage for repair. ExxonMobil stated that the emissions options to be compared are: 1) the emission associated with taking the outage as soon as possible, and 2) the emissions that will occur from the delay-of-repair components until the next normally scheduled outage. ExxonMobil stated that §115.352(2)(A)(i)(III) specifies calculation of the emissions from the delay-of-repair component "from the last day it was monitored and was not leaking through the date of the next planned process unit shutdown," but that the only emissions that can be avoided by shutting down for repairs are emissions that will occur from the current date until the next planned outage. ExxonMobil stated that the appropriate emissions for comparison are future emissions from each option, and that including past emissions from the delay-of-repair components cause that option to be overstated and could result in a decision to shut down for repairs that will actually increase emissions. ExxonMobil stated that the comparison of only future emissions for decisions is consistent with EPA fugitive

emission rules that state delay is allowed if “emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair.”

**The commission maintains that it is more appropriate to consider only the emissions that occur on or after the date that the leak is found in the delay-of-repair calculation because it is impossible to reduce emissions which occurred before the leak detection date. Therefore, the commission has revised §115.352(2)(A)(i)(III) accordingly.**

TCC stated that the references to clause (i)(III) and (i)(IV) in §115.352(2)(A)(ii) should be to clauses (i)(IV) and (i)(I), respectively, in order to provide a correct comparison of cumulative delay of repair emissions to shutdown emissions. ExxonMobil, TxOGA, and Valero likewise stated that the reference to clause (i)(IV) should be to clause (i)(I).

**The commission agrees and made the suggested changes. In addition, the commission revised §115.352(2)(A)(ii) to specify that the total cumulative mass emissions from leaking components in the process unit for which delay of repair is sought are assessed from the time that each additional leaking component is identified or at the time of any other changes to the emissions estimates, from the date of the change forward. This revision is necessary because it is impossible to reduce emissions which occurred before the leak detection date.**

TCC stated that §115.352(2)(A)(ii) should include VOC emissions from startup and maintenance.

**The commission agrees that this revision is necessary to ensure that the emissions from shutdown, maintenance, and subsequent startup of a unit for repair of leaking components are not greater than the emissions eliminated by the repairs. Therefore, the commission has revised §115.352(2)(A)(ii) accordingly.**

Dow recommended that the required timing for the extraordinary effort in §115.352(2)(A)(iii) be revised so that the timing is based on the leak date, instead of the date the component is placed on the shutdown list or the date the first extraordinary effort attempt is made. Dow stated that repair dates are currently keyed off of the leak date (five and 15 days) in most leak detection and repair software, and that it would be easier to manage these repair limits if all repair deadlines were keyed to the leak date.

**The suggested change will not result in increased emissions, but will make the rule language consistent with current software. Therefore, the commission has made the suggested change to §115.352(2)(A)(iii).**

TCC stated that §115.352(2)(D) should be broken into two sentences for clarity as follows: *“Valves which can be safely repaired without a process unit shutdown may not be placed on the shutdown list. The use of ‘extraordinary efforts’ as described in subparagraph (A)(iii) of this paragraph is not required prior to placing a valve on the shutdown list.”* ExxonMobil, TxOGA, and Valero suggested similar language.

**The commission agrees and revised §115.352(2)(D) accordingly.**

TCC commented that §115.354(1)(B) should be revised to require yearly monitoring of nonaccessible “components” and not simply nonaccessible “valves.” Likewise, ExxonMobil, TCC, TxOGA, and Valero commented that §115.354(1)(C), concerning “unsafe to monitor valves,” should be changed to “unsafe to monitor components” to ensure no unsafe acts occur. ExxonMobil gave an example that all equipment within a high pressure reactor area at a polyethylene plant is inaccessible for safety reasons.

**The commission agrees that changing “valves” to “components” is reasonable because there is no need to limit the requirements to nonaccessible valves. Therefore, the commission has revised §115.354(1)(B) and (C) accordingly. The commission has likewise revised §115.352(7) for consistency with §115.354(1)(B) and (C).**

EMS questioned if “nonaccessible valves” are synonymous with “difficult-to-monitor valves” in §115.354(1)(B) and §115.781(b)(7).

**“Nonaccessible valves” are defined in §115.352(7) as “valves elevated more than two meters above a support surface.” However, §115.781(b)(7) defines “difficult-to-monitor components” as components “that cannot be inspected without elevating the monitoring personnel more than two meters above a permanent support surface.” This differs from the definition of “nonaccessible valves” in §115.352(7), but is consistent with federal requirements. Thus, the two terms are similar, but not identical.**

Dow stated that the references to “the electronic database required by §115.356” in §115.354(10) and (10)(B), and 30 TAC §115.788(a)(3)(D), Audit Provisions, should be revised because 30 TAC §115.356(2), Monitoring and Recordkeeping Requirements, does not require an electronic database.

**The commission agrees that the suggested changes should be made and revised §115.354(10) and (10)(B) accordingly by deleting the term “electronic.” However, no changes were proposed to §115.788; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. The commission may evaluate the suggested change to §115.788(a)(3)(D) in the future and, if appropriate, consider it for possible inclusion in future rulemaking.**

TCC stated that §115.354(10)(A) should be revised to refer to “the time that the organic vapor concentration is read or recorded for each component” rather than “the time that the organic vapor analyzer trigger is pulled to record the concentration of each component” because not all vapor analyzers are equipped with “triggers.” Dow, ExxonMobil, TxOGA, and Valero suggested similar language.

**The commission agrees and revised §115.354(10)(A) accordingly.**

Dow stated that §115.354(10)(B) and §115.356(2)(D) and (G) are inconsistent on the recordkeeping requirements for the weekly audio, visual, and olfactory (AVO) flange inspections. Dow recommended removing the recordkeeping requirements for the AVO inspections in §115.354(10)(B) and

§115.356(2)(D) and keeping the requirement in §115.356(2)(G). Dow stated that §115.354(10)(B) requires keeping the date of the inspection, but this piece of information is not required by §115.356(2)(D). Dow stated further that §115.356(2)(D) adds an extra caveat that flanges subject to §115.781(b)(3) are excluded from the recordkeeping requirement, but this caveat is not stated in §115.354(10)(B). In addition, Dow stated that §115.356(2)(G) negates the recordkeeping requirement in §115.354(10)(B) and §115.356(2)(D). Finally, Dow suggested moving the following sentence to the end of §115.354(10)(B): “Flanges in the Houston/Galveston area that are monitored using Test Method 21 as required by §115.781(b)(3) of this title (relating to General Monitoring and Inspection Requirements) are excluded from this recordkeeping requirement.”

**The requirements of §115.356(2)(G) apply to connectors, while the requirements of §115.356(2)(D) apply to flanges, which is a subset of connectors. Therefore, the appropriate way to reconcile these two subparagraphs would be to add “(excluding flanges)” to §115.356(2)(G), such that this subparagraph would only apply to connectors which are not subject to §115.356(2)(D). However, this change cannot be made as part of the current rulemaking because no changes were proposed to §115.356; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. Regarding Dow’s comment concerning the date of inspection specified by §115.354(10)(B), this information is necessary to provide documentation that the owner/operator is in fact conducting the required inspections on a weekly basis. Regarding Dow’s comment concerning the reference to AVO inspections in §115.354(10)(B), the commission agrees that this reference is duplicative of language in §115.356(2)(D) and has deleted this sentence from §115.354(10)(B).**

EMS commented on §115.354(10)(C) and stated that any changes to the leak records such as date and time read and repair information should be included in the list of changes that need to be recorded.

**The commission agrees that this information is necessary to document compliance with the requirements and made the suggested change.**

Dow recommended deletion of the requirement in §115.354(11) and §115.781(b)(10) to record a default pegged value of 100,000 ppmv for readings that are higher than the upper end of the scale (i.e., pegged) even when using the highest scale setting or a dilution probe.

**It is the commission's intent to obtain actual, monitored values or to use the highest value to encourage the recording of actual monitored values. Therefore, the commission declines to make the suggested change.**

Dow stated that the phrase "in gaseous or light liquid service" should be added to §115.354(11) because heavy liquid components will not have a screening concentration.

**The commission agrees that §115.354(11) should exclude components in heavy liquid service because they do not have a screening concentration. Therefore, the commission has revised §115.354(11) accordingly.**

Dow stated that in §115.354(12) the commission should reconsider providing a size exemption for connectors associated with instrumentation systems similar to Hazardous Organic National Emission Standards for Hazardous Air Pollutants (NESHAP) in 40 CFR, Subpart H (hazardous organic NESHAPS or HON) because connectors are not included in the federal reasonably available control technology requirements for fugitive emissions.

**EPA confirmed that connectors are not subject to reasonably available control technology requirements. Therefore, the commission has added a new §115.357(10) accordingly and renumbered the existing §115.357(10) as §115.357(11) to accommodate the new exemption.**

**No comments were received on §115.357(1) and (2); however, the commission revised §115.357(1) and (2) by adding commas after “pounds per square inch.”**

EMS questioned whether the revised language in §115.781(a) means that specially colored tags are not needed and that HRVOC components do not need to have identification codes.

**Components may be identified by color coding, but individual identification of HRVOC components is not required due to the inherent difficulties associated with individually tagging all components. However, the owner or operator must be able to identify the components of each process unit in HRVOC service which is subject to the requirements of Subchapter H, Division 3.**

**The acceptable methods for identifying the components of each process unit in HRVOC service are given in §115.781(a)(1) - (6).**

TCC commented that §115.781(b)(7)(A) should refer to unsafe-to-monitor “components” and not simply unsafe-to-monitor “valves.”

**The commission agrees and revised §115.781(b)(7)(A) accordingly.**

Dow stated that conducting inert gas or hydraulic testing at normal operating temperature and pressure can be impractical and suggested revised rule language in §115.781(b)(7)(A) and recommended deletion of the last three sentences of §115.781(b)(7)(A).

**An alternative to the Dow approach would be to require submission of an alternative monitoring plan that establishes leak-free performance periodically for a site’s unsafe-to-monitor components in light liquid or heavy liquid service. Appropriate alternatives could include close proximity sniffers or chemical sensitive tape. Due to the resources necessary to evaluate such alternatives on a case-by-case basis, the commission is not pursuing this option. Instead, the commission is deleting the last three sentences of §115.781(b)(7)(A) to ensure that no unsafe acts occur.**

Dow requested clarification on the intent of the requirement that states: “Inert gas or hydraulic testing is not required more than four times per year or more than once a month if the unsafe-to-monitor component has not been found to leak in the 12 consecutive months preceding startup.” Dow also

stated that the rule should be clarified to specify what to do if a process unit does not have a startup within the year.

**The language that Dow cited simply means that the maximum number of times that inert gas or hydraulic testing would be required is four times per year or once a month. If a unit has multiple startups in a month, inert gas or hydraulic testing would only be required one time in that month, provided that the unsafe-to-monitor component has not been found to leak in the 12 consecutive months preceding startup. Similarly, if a unit has more than four startups in a year, inert gas or hydraulic testing would be limited to four times in that year, again provided that the unsafe-to-monitor component has not been found to leak in the 12 consecutive months preceding startup. If, however, an unsafe-to-monitor component has been found to leak in the 12 consecutive months preceding startup, then inert gas or hydraulic testing is required before each startup of the process unit where the unsafe-to-monitor component is located. As noted in the response to the previous comment, the commission has deleted the last three sentences of §115.781(b)(7)(A) to ensure that monitoring personnel are not unnecessarily exposed to unsafe conditions.**

Dow stated that §115.781(b)(8) should include a reference to §115.787(e) because pressure relief valves in gaseous service that are equipped with a rupture disk are exempt from monitoring under §115.787(e).

**The suggested change is unnecessary because the exemption in §115.787(e) is available regardless of whether it is referenced elsewhere.**

Dow stated that the reference in §115.781(e), regarding reporting results of monitoring after pressure release events, should be deleted because 30 TAC §115.786, Recordkeeping Requirements, does not contain any reporting requirements relative to pressure relief devices relieving.

**No changes were proposed to §115.781(e); however, it is the commission's position that it would be more appropriate to revise §115.786 to include a reference to §115.781(e) to ensure that appropriate recordkeeping is kept to document compliance with §115.781(e). Because no changes were proposed to §115.786, the commission is prohibited by law from making any changes to this section in the current rulemaking. The commission may evaluate this change in the future and, if appropriate, consider it for possible inclusion in future rulemaking.**

ExxonMobil, TCC, TxOGA, and Valero stated that §115.781(f) should be revised to allow skip periods for process drains from weekly to quarterly if demonstrated to have no seal issues for three quarters. ExxonMobil, TCC, TxOGA, and Valero further stated that other devices that should be eligible for skip monitoring include sight glasses, meters, gauges, sampling connections, junction box vents, and covers and seals on VOC water separators. TCC stated that these components are similar to connectors in that they do not have moving parts and are thus less likely to leak. ExxonMobil, TCC, TxOGA, and Valero stated that because the number of new components subject to monitoring under Subchapter H, Division 3, is expected to significantly increase, it is reasonable to provide some monitoring relief for sources not found to be leaking.

The inspection schedule for process drains is found in §115.781(b)(4) and (5); however, no changes were proposed to these paragraphs. Process drains have been retained on the existing monitoring schedule because they can have significant emissions if not properly maintained. Specifically, many process drains are configured with u-shaped P-traps that use a water seal as control technology. Many process drains receive high-temperature material or steam condensate, and any water in the drain seals is quickly evaporated. These drains then have a relatively high flow rate in air volume coming out of them, resulting in uncontrolled emissions. If found leaking during an annual monitoring check, commission staff has found that an owner or operator can simply pour water in the drain and ignore it for another year. In April 2000, commission staff monitored the process drains in an ethylene unit and found readings as high as 2,000 ppmv on process drains that were all equipped with water seal technology, but no water seal. In many cases, emissions are recurring within hours of filling the drains. Consequently, some of these drains leak most of the year. Therefore, the commission has retained a more frequent inspection schedule than suggested by the commenters in their comments on this rulemaking.

Once repaired, components with no moving parts (such as connectors) would be expected to remain leak free for extended periods. Because sight glasses, meters, and gauges have no moving parts, they are analogous to connectors (and in some cases even could be considered a subset of connectors). Consequently, the commission maintains it is appropriate to include these components in the leak-skip option for connectors in §115.781(f). Therefore, the commission has revised §115.781(f) to include the availability of the leak-skip option for sight glasses, meters, and gauges, similar to the skip-period provisions for connectors in the hazardous organic NESHAP.

**The commission has not included sampling connections because they include moving parts (valves).**

**Concerning the other nontraditional components described by the commenters, the commission notes that these components have been found to leak, yet in most cases are not currently required to be monitored at all. The covers and seals on VOC water separators can be torn when opened and therefore should need to be monitored for leaks on a more frequent basis than would be allowed under the leak-skip option of §115.781(f). Similarly, monitoring of junction box vents provides an indication of whether the water seal is in place and preventing free flow of emissions. As described in the January 3, 2003 issue of the *Texas Register* (28 TexReg 113), reductions of HRVOC emissions from these sources are necessary to allow continued progress toward attainment of the one-hour ozone national ambient air quality standard.**

Dow, ExxonMobil, TCC, TxOGA, and Valero stated that §115.781(f) should be revised to clarify that April 1, 2006 is the earliest date to determine whether or not leak-skip provisions apply.

**The commission revised §115.789(1) in response to similar comments concerning §115.789(1), as described later in this preamble.**

Dow stated that the commission should clarify whether all component types in §115.781(f) should be averaged together or each component type should be considered separately. Dow indicated that it plans to average them together.

**The component types specified in §115.781(f) (i.e., blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, connectors, bolted manways, heat exchanger heads, hatches, and sump covers) may be averaged together, although an owner or operator may choose to consider each component type separately if desired.**

**The commission notes that leak-skip programs require that the percentage of leaking components be less than a certain percentage (typically 2.0%) to begin leak-skip monitoring, but as currently worded, §115.781(f)(1) inadvertently allows any percentage of leakers into the program.**

**Consequently, a source could qualify for the leak-skip program of §115.781(f) despite having leaks from all blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, connectors, bolted manways, heat exchanger heads, hatches, and sump covers. This was never the commission's intention; therefore, the commission has revised §115.781(f)(1) to limit the percentage of leaking components to 2.0%.**

Dow commented that §115.782(c)(1)(B) should be revised for consistency with §115.352(2)(A) and to clarify the commission's intent as stated in the preamble to the adopted rule published in the January 3, 2003 issue of the *Texas Register* (28 TexReg 161). Specifically, Dow stated that §115.782(c)(1)(B) should be revised to state: *“if the repair of a component within seven or 15 days (as specified in subsection (b) of this section) after the leak is detected would require a process unit shutdown which would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled process unit shutdown . . .”*

**The commission agrees with the commenter. However, no changes were proposed to §115.782; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. However, the commission may evaluate the suggested changes in the future and, if appropriate, consider them for possible inclusion in future rulemaking.**

Dow commented that references to VOC in §115.783(2), (2)(A), and (C) should be changed to HRVOC because Subchapter H, Division 3, is intended to apply only to HRVOCs.

**The commission agrees and has revised §115.783(2) and (2)(A) and (C) accordingly.**

TCC suggested that §115.783(3) be revised to only apply to HRVOC components that contain over 5.0% HRVOC by weight under normal operating conditions.

**The suggested change is not necessary because §115.787(a) already provides an exemption for components which contact a process fluid that contains less than 5.0% HRVOC by weight on an annual average basis. In addition, the term “normal operating conditions” is difficult to define; therefore, it is the commission’s position that inclusion of this term would make the rules too subjective, resulting in difficulties in enforcement due to differing interpretations about what constitutes “normal operating conditions.”**

Dow commented that §115.783(3) should be revised to specify that delay of repair is allowed for leak-tight pressure relief components installed in series with pressure relief valves in gaseous HRVOC

service. Dow stated that §115.783(3) seems to require replacement of failed rupture disks on pressure relief valves within 30 days, with no provision for delaying repair until the next process unit shutdown. Dow further stated that not allowing delay for repairing or replacing the leak-tight pressure relief component does not make sense.

**The commission agrees that an owner or operator may not always consider it practical to repair a failed rupture disk, pin, second relief valve, or similar leak-tight pressure relief component within 30 days. Therefore, the commission has revised §115.783(3) accordingly to provide flexibility for such situations. However, if an owner or operator elects to repair or replace the leaking component at the next planned process unit shutdown, the emissions are considered to be vent gas emissions and are subject to the site-wide cap in §115.722. This is consistent with the treatment of pressure relief valves under §115.725(a) as described earlier in this preamble under the VENT GAS AND FLARES heading in the RESPONSE TO COMMENTS section.**

TCC commented on §115.783(4) and stated that it is more practical to base the required equipment changes on the “purchased” date in lieu of an “installation” date because of potential confusion with the use of the term “installed.”

**The commission declines to make the suggested change because it would allow older, higher-emitting equipment to be imported into HGA. In addition, the term “purchased” would result in confusion and enforceability issues because it is a difficult term to define. For example, “purchased” could be interpreted in a variety of ways, such as the date the purchase order is**

**signed, the date of the last payment, etc. In contrast, the term “installed” is evident as it refers to the initial installation of the equipment.**

Dow stated that the shaft sealing system requirements for dual pump seals in §115.783(4)(A)(iii) should be amended to refer more generally to “dual seals” because compressors and agitators can have dual seals as well.

**The commission agrees and has revised §115.783(4)(A)(iii) accordingly.**

ExxonMobil, TCC, TxOGA, and Valero stated that the commission should clarify in §115.785(5) that if a closed vent system is routed to a flare and the flare is used as a control device, then testing for purposes of §115.785 applies only to the control device used to capture the fugitive emissions.

ExxonMobil, TCC, TxOGA, and Valero stated that testing necessary for the fugitive rule only applies to a control device other than a vent or flare that is used to control fugitive emissions.

**Pressure relief valves can be a source of both fugitive emissions and vent gases. As noted earlier in this preamble in response to a comment on §115.727(e)(3), equipment leak fugitive components were not intended to be included in the site-wide cap. However, emissions from pressure relief valves, which occur when the process pressure is sufficient to overcome the pre-set pressure relief point of the pressure relief valve and emissions are either released directly to the atmosphere or routed to a control device, are considered to be vents which are included in the site-wide cap.**

**As noted earlier in this preamble in response to a comment on §115.725(a), emissions from pressure relief valves are considered to be fugitive emissions when the emissions are associated with the re-seating of the pressure relief valves or other leaks around the seals (e.g., valve stems) resulting from overpressurization. However, when the process pressure is enough to overcome the pre-set pressure release point of the pressure relief valve and emissions are released either directly to the atmosphere or to the atmosphere via a control device, the pressure relief valve is considered to be a vent gas stream and the emissions may be considered unauthorized. These unauthorized emissions associated with an emissions event must at least be recorded under the Chapter 101 emissions event rules. However, if the unauthorized emissions are not associated with an emissions event, then the commission will allow process knowledge to estimate the emissions for the purpose of demonstrating compliance with the site-wide cap or demonstrating satisfaction of exemption criteria.**

ExxonMobil, TCC, TxOGA, and Valero commented on §115.785(5) and stated that there is a separate HRVOC rule for flares/vents and that any testing of those devices should follow the requirements of Subchapter H, Division 1.

**The commission agrees and revised §115.785 to specify that flares which are in compliance with §115.722(b) and §115.725 are exempt from the testing requirements of Subchapter H, Division 3.**

Dow, ExxonMobil, TCC, TxOGA, and Valero stated that the commission should revise §115.785(5) so that it does not require 45-day notice on previously conducted tests. Dow suggested that this language

be revised to specify that “the appropriate regional office was *either* notified at least 30 days prior to testing and given an opportunity to observe the testing *and/or was actually present to observe the testing.*”

**Forty-five day notification is the standard notice requirement in air permits; however, the commission recognizes that testing conducted for the purposes of compliance with a permit or a commission rule may be sufficient for the purpose of this rule if the data has been approved by the executive director. Therefore, the commission has revised §115.785(5) accordingly.**

Dow stated that the criteria in §115.785(5), which specifies that a past performance test is only valid if it establishes maximum potential HRVOC emission data, should be deleted. Dow stated that §115.785(5) is inconsistent with §115.785(4), which requires conducting performance tests based on representative performance (i.e., normal operating conditions).

**The commission's intent is that testing be conducted to establish maximum potential hourly HRVOC emissions data expected during any operation not defined as an emissions event or a scheduled maintenance, startup, or shutdown activity under §101.1. Therefore, §115.785(4) has been revised accordingly to include the same language concerning maximum HRVOC emissions as §115.785(5) and §115.725(a) and (c).**

Dow stated that there is no need to establish the maximum potential HRVOC emission rate for fugitive emissions because fugitive emissions are excluded from the HRVOC mass emission rate cap.

**As noted earlier in this preamble, emissions from pressure relief valves are considered to be fugitive emissions when the emissions are associated with the re-seating of the pressure relief valves or other leaks around the seals (e.g., valve stems) resulting from overpressurization. However, when the process pressure is enough to overcome the pre-set pressure release point of the pressure relief valve and emissions are released either directly to the atmosphere or to the atmosphere via a control device, the release from the pressure relief valve is considered to be a vent gas stream and the emissions may be considered unauthorized. These unauthorized emissions associated with an emissions event must at least be recorded under the Chapter 101 emissions event rules. Equipment leak fugitive components were not intended to be included in the site-wide cap. Furthermore, emissions from pressure relief valves, which occur when the process pressure is sufficient to overcome the pre-set pressure relief point of the pressure relief valve and emissions are either released directly to the atmosphere or routed to a control device, are considered to be vents which are included in the site-wide cap.**

Although TCC previously recommended the language proposed in §115.725(a) and (c), TCC provided a revised recommendation to the commission to strike the term “maximum potential” and replace it with the phrase “maximum expected during normal operations.” TCC asserted that the term “maximum potential” may imply that testing would be required during “abnormal” events. ExxonMobil provided a similar comment.

**It is not the commission's intent to require vent testing of emissions during operations that would be considered an emissions event or scheduled maintenance, startup, and shutdown activities, as defined in §101.1. Therefore, the commission revised §115.725(a) and (c) accordingly.**

Dow stated that §115.785(5) should include an exemption from performance testing for boilers or process heaters with a design heat input capacity of 150 million Btu per hour (44 megawatts) or greater, and boilers or process heaters into which the process vent stream is introduced with the primary fuel or is used as the primary fuel. As support, Dow referred to the HON background information document in which EPA determined that these boilers and process heaters would control vent gas streams with a combustion efficiency of at least 98%.

**The exemption from performance testing cited by the commenter was not developed to demonstrate compliance with an emissions limit or site-wide emissions cap. Instead, EPA developed the exemption from performance testing as a means of demonstrating that a relatively large boiler or process heater meets or exceeds the minimum required combustion efficiency. Therefore, the commission revised §115.785 to specify that boilers or process heaters with a design heat input capacity equal to or greater than 150 million Btu per hour (44 megawatts) are exempt from the control efficiency testing requirements of §115.783(2)(C). This exemption also applies to boilers and process heaters in which the HRVOC emission stream is introduced into the boiler or process heater with the primary fuel or as the primary fuel. Because the exemption developed by EPA is applicable to regulations with control efficiency and not a site-wide mass emissions cap, the exemption from the control efficiency determination that the commission added to §115.785 does**

**not exempt the owner or operator of boilers or process heaters from the testing requirements of §115.725.**

Dow suggested adding additional text to §115.786(d) to clarify that exemption records by component are not necessary to justify exemptions claimed under §115.787(a), (c), and (f), but that exemption records by component are necessary for claiming exemptions under §115.787(b), (d), and (e).

Specifically, Dow suggested adding the following text to §115.786(d): “For the purpose of identifying and justifying each exemption claimed, individual equipment components should not need to be listed for equipment components exempted under §115.787(a), (c), and (f). The required record for these exemptions could consist of, for example, a statement that exemption is being used, identification of the process unit where the exemption is used, a description of the location(s) in the process where the exemption applies, and a discussion of how the applicability of the exemption was determined (e.g., process knowledge that steam {sic} content is expected to be less than 5.0% HRVOC, or components that are insulated so that the potential leak interface is not accessible). For identifying and justifying exemptions claimed under §115.787(b), (d), and (e), each equipment component for which each exemption is claimed should be listed; together with a description of how the applicability of each exemption was determined.”

**The required recordkeeping is necessary in order to demonstrate applicability of the various exemptions. It would be difficult or impossible for the commission to be able to enforce the requirements without the necessary recordkeeping. The commission has made no changes in response to the comments.**

Dow suggested that §115.787(c)(5) be revised to exempt inaccessible connectors, using language similar to the HON in 40 CFR §63.174(h)(1) and (2). Dow stated that raising an individual vertically is not the only safety issue when trying to reach an inaccessible connector and that other safety issues include: danger of damaging electrical cables and piping; limitations on access due to curbs and process equipment spacing; and dangers of fire and explosions in some process areas.

**The commission has made no changes in response to the comment because §115.787(c)(5) applies to components which are insulated, making them inaccessible to monitoring with a hydrocarbon gas analyzer, while unsafe-to-monitor components and difficult-to-monitor components are addressed in §115.781(b)(7)(A) and (B), respectively.**

Lyondell and TCC stated that instrumentation systems primarily consist of valves up to 0.5 inches in diameter and connectors up to 0.75 inches in diameter. Lyondell and TCC recommended the addition of an exemption in §115.787(c)(6) for instrumentation systems, as defined in 40 CFR §63.161, which are in compliance with 40 CFR §63.169.

**The commission agrees that instrumentation systems consist of smaller lines than normal process lines, and EPA confirmed that the suggested exemption can be added because the emissions increase will be insignificant. Therefore, the commission has added a new §115.787(c)(7) accordingly.**

Dow stated that exemptions from §115.352(4) and §115.783(6) should be added to §115.357 and §115.787 for open-ended valves or lines in an emergency shutdown system and those containing materials that would autocatalytically polymerize or would present an explosion, serious over-pressurization, or other safety hazard. Dow suggested that the exemptions should include language similar to 40 CFR §63.167(d) and (e) of the HON in 40 CFR, Subpart H, which state “open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b), and (c) of this section” and “open-ended valves or lines containing materials which would autocatalytically polymerize or, would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraph (a) through (c) of this section,” respectively.

**The commission agrees, and EPA concurs, that the suggested exemptions should be added for safety reasons. The commission has added these exemptions to §115.357(9) and §115.787(f), corrected a reference in §115.787(f) to §115.352(4), and relocated the exemption for pressure relief valves from §115.352(4) and §115.783(6) to §115.357(9) and §115.787(f), respectively.**

Dow suggested that §115.787(d) be revised to include an exemption for agitators equipped with shaft sealing systems and stated that the examples should be revised so that they are parallel to §115.783(4)(A). Dow noted that the commission had previously stated that this revision would be made, as discussed in the January 3, 2003 issue of the *Texas Register* (28 TexReg 153). Dow also recommended not limiting the dual seal option to just pumps.

**The commission agrees that its intention was to include a reference to agitators, but this reference inadvertently was not included in the rule language published in the January 3, 2003 issue of the *Texas Register*. Although no changes were proposed to §115.787(d) in the current rulemaking, as Dow noted, the commission had previously stated that the reference to agitators would be included in §115.787(d). Therefore, the commission has revised §115.787(d) to include the suggested reference to agitators. Regarding Dow's suggestion that the exemption for dual seals not be limited to pumps, the commission agrees that compressors and agitators are similar to pumps in that they include rotating shafts and therefore can have dual seals. Consequently, the commission has revised §115.783(4)(A) and §115.787(d) accordingly.**

Dow stated that §115.787(f) should exempt valves rated greater than 10,000 psig from §115.352(4), rather than §115.781(b). Dow noted that §115.357(9) exempts valves rated greater than 10,000 psig from the requirement in §115.352(4) to equip each open-ended valve or line with a second valve, a blind flange, or a tightly-fitting plug or cap. Dow stated that the exemption in §115.787(f) is not as clear in that it provides an exemption from more general requirements in §115.781(b). Dow stated that the exemption in §115.787(f) should be parallel to the one in §115.357(9) and exempt valves rated greater than 10,000 psig from §115.352(4).

**The commission agrees and has corrected a reference in §115.787(f) from §115.781(b) to §115.352(4).**

Dow commented that flares meeting the required monitoring in §115.725(d) and (e) should not also require a compliance demonstration under 40 CFR §60.18 for Subchapter H, Division 1 or Division 3, when the flare is under dual regulations. Dow further stated that on-line monitoring will continuously demonstrate compliance with the minimum heating value and exit velocity requirements of 40 CFR §60.18, which makes a one-time compliance demonstration unnecessary. Dow recommended the addition of a new §115.787(g) stating that flares used to comply with §115.783 are exempt from the requirements of §115.785 if the flare is also subject to §115.725(d) and (e).

**The commission agrees and revised §115.785 to specify that flares that are in compliance with §115.722(b) and §115.725 are exempt from the testing requirements of Subchapter H, Division 3.**

Dow suggested that an exemption be added to §115.787 to state that all devices meeting §115.783(2)(C) are exempt from testing if the device is also regulated under Subchapter H, Division 1. Dow stated that fugitive emissions sources of HRVOC are generally much smaller sources than HRVOC process vent sources and that if the fugitive emission sources are going to a control device that is regulated under the vent gas division, then the process vent rules should overlap the required testing in §115.785.

**There is no duplicative testing required because the testing for the vent gas rules can be applied toward §115.783(2)(C). In other words, there is no prohibition on using one test to satisfy more than one requirement. Therefore, the commission has made no changes in response to the comment.**

TCC commented that the commission should clarify in §115.788 that audit provisions apply to HRVOC components only. TCC stated that the term “process unit” should be changed to “account” throughout §115.788 because the audit should look at a random sampling of the process units within an account, and not at each individual unit. TCC also stated that it should be expected that all units within an account will be monitored under the same standards, so the auditing results from one unit should be indicative of the entire account.

**No changes were proposed to §115.788; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. However, the commission has evaluated the suggested change and disagrees with the commenter because there is variation in leak rates between units (for example, age of the unit, temperature and pressure at which the unit operates, etc.). If implemented, the suggested change would allow an owner or operator to audit its best-performing unit and ignore another unit with significant leaks.**

Dow stated that because §115.781(a) no longer requires individual identification of components and there is no specific requirement to have a “components” monitoring log, §115.788(a)(1)(A) and (B) and §115.788(d)(1) and (2) should be deleted for consistency purposes.

**No changes were proposed to §115.788; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. However, components may be identified by color coding, but individual identification of HRVOC components is not required due to the inherent difficulties associated with individually tagging all components. However, the**

**owner or operator must be able to identify the components of each process unit in HRVOC service which is subject to the requirements of Subchapter H, Division 3. The acceptable methods for identifying the components of each process unit in HRVOC service are given in §115.781(a)(1) - (6).**

TCC stated that the statistical basis for sampling size (regardless of for an individual process unit or account as a whole) is much larger than it needs to be from a statistical standpoint, and that §115.788(a)(2)(B) should be modified to more appropriately address the assumed leaking statistical point of view as well as a practical resource point of view. TCC stated that a reduced audit sample size will reduce the cost of the audit significantly, without reducing the statistical significance of the results.

**No changes were proposed to §115.788; therefore, the commission is prohibited by law from making any changes to this section in the current rulemaking. However, the commission may evaluate the suggested changes in the future and, if appropriate, consider them for possible inclusion in future rulemaking.**

Dow, ExxonMobil, TCC, TxOGA, and Valero stated that the commission should clarify §115.789(1) so that all components that are proposed for alternative monitoring under §115.781(f) must be monitored one time prior to April 1, 2006 and then according to the percentage leak rate and prescribed frequency thereafter.

**The commission agrees that specifying the components better defines the requirements; therefore, the commission revised §115.789(1) accordingly.**

Dow, ExxonMobil, TCC, TxOGA, and Valero stated that §115.783(2)(B) requires that flares used to comply with the HRVOC fugitives rule must meet the requirements of Subchapter H, Division 1, which requires that the flare flow and composition monitoring be in place by December 31, 2004. Dow, ExxonMobil, TCC, TxOGA, and Valero noted that the proposed revisions to §115.789(2) specify that all equipment upgrades required by §115.783 must be made by March 31, 2004, and stated that the commission should specify that the compliance date for fugitive sources that are routed to a flare is the flare compliance date.

**The commission agrees and revised §115.789(2) to specify that equipment upgrades to meet the requirements of Subchapter H, Division 1, must be in place no later than December 31, 2005, while all other equipment upgrades must be in place no later than March 31, 2004.**

Dow stated that because the revisions to §115.789(1) extend the compliance date for initial monitoring to March 31, 2004, the compliance date for the independent third-party audit in §115.789(3) should be changed to allow an owner or operator to comply with the auditing requirements by auditing at least 50% of the process units by December 31, 2004 and the remainder of the process units by December 31, 2005. Dow stated that requiring 50% of HRVOC process units to be audited by the end of 2004, and all to be audited by the end of 2005, would allow audit providers to balance their workloads and make the highest quality auditors available to more facilities. Therefore, Dow recommended rewording

§115.789(3) to state: *“The initial independent third-party audit required by §115.788 of this title (relating to Audit Provisions) shall be completed and the results of the audit submitted to the executive director for at least 50% of the process units or processes at an account as soon as practicable, but no later than December 31, 2004. The remainder of the process units or processes at the account that are subject to §115.788 (relating to Audit Provisions) shall be audited as soon as practicable, but no later than December 31, 2005.”*

**The commission agrees and has revised §115.789(3) accordingly.**

## **SUBCHAPTER A: DEFINITIONS**

### **§115.10**

#### **STATUTORY AUTHORITY**

The amendment is adopted under Texas Water Code, §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 Texas Water Code; and under Texas Health and Safety Code, §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amendment is also adopted under Texas Health and Safety Code, §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; §382.012, concerning State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, which authorizes the commission to require persons whose activities cause air contaminant emissions to submit information regarding emissions of air contaminants; and §382.016, concerning Monitoring Requirements: Examination of Records, which authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants.

**§115.10. Definitions.**

Unless specifically defined in the Texas Clean Air Act or in the rules of the commission, the terms used by the commission have the meanings commonly ascribed to them in the field of air pollution control. In addition to the terms which are defined by the Texas Clean Air Act, the following terms, when used in this chapter (relating to Control of Air Pollution from Volatile Organic Compounds), shall have the following meanings, unless the context clearly indicates otherwise. Additional definitions for terms used in this chapter are found in §3.2 and §101.1 of this title (relating to Definitions).

(1) **Background** - The ambient concentration of volatile organic compounds (VOC) in the air, determined at least one meter upwind of the component to be monitored. Test Method 21 (40 Code of Federal Regulations (CFR) 60, Appendix A) shall be used to determine the background.

(2) **Beaumont/Port Arthur area** - Hardin, Jefferson, and Orange Counties.

(3) **Capture efficiency** - The amount of VOC collected by a capture system which is expressed as a percentage derived from the weight per unit time of VOC entering a capture system and delivered to a control device divided by the weight per unit time of total VOC generated by a source of VOC.

(4) **Carbon adsorption system** - A carbon adsorber with an inlet and outlet for exhaust gases and a system to regenerate the saturated adsorbent.

(5) **Closed-vent system** - A system that:

(A) is not open to the atmosphere;

(B) is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices; and

(C) transports gas or vapor from a piece or pieces of equipment directly to a control device.

(6) **Component** - A piece of equipment, including, but not limited to, pumps, valves, compressors, connectors, and pressure relief valves, which has the potential to leak VOC.

(7) **Connector** - A flanged, screwed, or other joined fitting used to connect two pipe lines or a pipe line and a piece of equipment. The term connector does not include joined fittings welded completely around the circumference of the interface. A union connecting two pipes is considered to be one connector.

(8) **Continuous monitoring** - Any monitoring device used to comply with a continuous monitoring requirement of this chapter will be considered continuous if it can be demonstrated that at least 95% of the required data is captured.

(9) **Covered attainment counties** - Anderson, Angelina, Aransas, Atascosa, Austin, Bastrop, Bee, Bell, Bexar, Bosque, Bowie, Brazos, Burleson, Caldwell, Calhoun, Camp, Cass, Cherokee, Colorado, Comal, Cooke, Coryell, De Witt, Delta, Ellis, Falls, Fannin, Fayette, Franklin, Freestone, Goliad, Gonzales, Grayson, Gregg, Grimes, Guadalupe, Harrison, Hays, Henderson, Hill, Hood, Hopkins, Houston, Hunt, Jackson, Jasper, Johnson, Karnes, Kaufman, Lamar, Lavaca, Lee, Leon, Limestone, Live Oak, Madison, Marion, Matagorda, McLennan, Milam, Morris, Nacogdoches, Navarro, Newton, Nueces, Panola, Parker, Polk, Rains, Red River, Refugio, Robertson, Rockwall, Rusk, Sabine, San Jacinto, San Patricio, San Augustine, Shelby, Smith, Somervell, Titus, Travis, Trinity, Tyler, Upshur, Van Zandt, Victoria, Walker, Washington, Wharton, Williamson, Wilson, Wise, and Wood Counties.

(10) **Dallas/Fort Worth area** - Collin, Dallas, Denton, and Tarrant Counties.

(11) **El Paso area** - El Paso County.

(12) **External floating roof** - A cover or roof in an open-top tank which rests upon or is floated upon the liquid being contained and is equipped with a single or double seal to close the space between the roof edge and tank shell. A double seal consists of two complete and separate closure

seals, one above the other, containing an enclosed space between them. For the purposes of this chapter, an external floating roof storage tank which is equipped with a self-supporting fixed roof (typically a bolted aluminum geodesic dome) shall be considered to be an internal floating roof storage tank.

(13) **Fugitive emission** - Any VOC entering the atmosphere which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening designed to direct or control its flow.

(14) **Gasoline bulk plant** - A gasoline loading and/or unloading facility, excluding marine terminals, having a gasoline throughput less than 20,000 gallons (75,708 liters) per day, averaged over each consecutive 30-day period. A motor vehicle fuel dispensing facility is not a gasoline bulk plant.

(15) **Gasoline terminal** - A gasoline loading and/or unloading facility, excluding marine terminals, having a gasoline throughput equal to or greater than 20,000 gallons (75,708 liters) per day, averaged over each consecutive 30-day period.

(16) **Heavy liquid** - VOCs which have a true vapor pressure equal to or less than 0.044 pounds per square inch absolute (psia) (0.3 kPa) at 68 degrees Fahrenheit (20 degrees Celsius).

(17) **Highly-reactive volatile organic compound (HRVOC)** - As follows.

(A) In Harris County, one or more of the following VOCs: 1,3-butadiene; all isomers of butene (e.g., isobutene (2-methylpropene or isobutylene), alpha-butylene (ethylethylene) and beta-butylene (dimethylethylene, including both cis- and trans- isomers)); ethylene; and propylene.

(B) In Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, and Waller Counties, one or more of the following VOCs: ethylene and propylene.

(18) **Houston/Galveston area** - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties.

(19) **Incinerator** - For the purposes of this chapter, an enclosed control device that combusts or oxidizes VOC gases or vapors.

(20) **Internal floating cover** - A cover or floating roof in a fixed roof tank which rests upon or is floated upon the liquid being contained, and is equipped with a closure seal or seals to close the space between the cover edge and tank shell. For the purposes of this chapter, an external floating roof storage tank which is equipped with a self-supporting fixed roof (typically a bolted aluminum geodesic dome) shall be considered to be an internal floating roof storage tank.

(21) **Leak-free marine vessel** - A marine vessel whose cargo tank closures (hatch covers, expansion domes, ullage openings, butterworth covers, and gauging covers) were inspected prior to cargo transfer operations and all such closures were properly secured such that no leaks of

liquid or vapors can be detected by sight, sound, or smell. Cargo tank closures shall meet the applicable rules or regulations of the marine vessel's classification society or flag state. Cargo tank pressure/vacuum valves shall be operating within the range specified by the marine vessel's classification society or flag state and seated when tank pressure is less than 80% of set point pressure such that no vapor leaks can be detected by sight, sound, or smell. As an alternative, a marine vessel operated at negative pressure is assumed to be leak-free for the purpose of this standard.

(22) **Light liquid** - VOCs which have a true vapor pressure greater than 0.044 psia (0.3 kPa) at 68 degrees Fahrenheit (20 degrees Celsius), and are a liquid at operating conditions.

(23) **Liquefied petroleum gas** - Any material that is composed predominantly of any of the following hydrocarbons or mixtures of hydrocarbons: propane, propylene, normal butane, isobutane, and butylenes.

(24) **Low-density polyethylene** - A thermoplastic polymer or copolymer comprised of at least 50% ethylene by weight and having a density of 0.940 grams per cubic centimeter ( $\text{g/cm}^3$ ) or less.

(25) **Marine loading facility** - The loading arm(s), pumps, meters, shutoff valves, relief valves, and other piping and valves that are part of a single system used to fill a marine vessel at a single geographic site. Loading equipment that is physically separate (i.e., does not share common piping, valves, and other loading equipment) is considered to be a separate marine loading facility.

(26) **Marine loading operation** - The transfer of oil, gasoline, or other volatile organic liquids at any affected marine terminal, beginning with the connections made to a marine vessel and ending with the disconnection from the marine vessel.

(27) **Marine terminal** - Any marine facility or structure constructed to transfer oil, gasoline, or other volatile organic liquid bulk cargo to or from a marine vessel. A marine terminal may include one or more marine loading facilities.

(28) **Metal-to-metal seal** - A connection formed by a swage ring which exerts an elastic, radial preload on narrow sealing lands, plastically deforming the pipe being connected, and maintaining sealing pressure indefinitely.

(29) **Natural gas/gasoline processing** - A process that extracts condensate from gases obtained from natural gas production and/or fractionates natural gas liquids into component products, such as ethane, propane, butane, and natural gasoline. The following facilities shall be included in this definition if, and only if, located on the same property as a natural gas/gasoline processing operation previously defined: compressor stations, dehydration units, sweetening units, field treatment, underground storage, liquified natural gas units, and field gas gathering systems.

(30) **Petroleum refinery** - Any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of crude oil, or

through the redistillation, cracking, extraction, reforming, or other processing of unfinished petroleum derivatives.

(31) **Polymer or resin manufacturing process** - A process that produces any of the following polymers or resins: polyethylene, polypropylene, polystyrene, and styrenebutadiene latex.

(32) **Pressure relief valve** - A safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A pressure relief valve is automatically actuated by the static pressure upstream of the valve, but does not include:

(A) a rupture disk; or

(B) a conservation vent or other device on an atmospheric storage tank that is actuated either by a vacuum or a pressure of no more than 2.5 pounds per square inch gauge (psig).

(33) **Printing line** - An operation consisting of a series of one or more printing processes and including associated drying areas.

(34) **Process drain** - Any opening (including a covered or controlled opening) which is installed or used to receive or convey wastewater into the wastewater system.

(35) **Process unit** - The smallest set of process equipment that can operate independently and includes all operations necessary to achieve its process objective.

(36) **Rupture disk** - A diaphragm held between flanges for the purpose of isolating a VOC from the atmosphere or from a downstream pressure relief valve.

(37) **Shutdown or turnaround** - For the purposes of this chapter, a work practice or operational procedure that stops production from a process unit or part of a unit during which time it is technically feasible to clear process material from a process unit or part of a unit consistent with safety constraints, and repairs can be accomplished.

(A) The term shutdown or turnaround does not include a work practice that would stop production from a process unit or part of a unit:

(i) for less than 24 hours; or

(ii) for a shorter period of time than would be required to clear the process unit or part of the unit and start up the unit.

(B) Operation of a process unit or part of a unit in recycle mode (i.e., process material is circulated, but production does not occur) is not considered shutdown.

(38) **Startup** - For the purposes of this chapter, the setting into operation of a piece of equipment or process unit for the purpose of production or waste management.

(39) **Strippable volatile organic compound (VOC)** - Any VOC in cooling tower heat exchange system water which is emitted to the atmosphere when the water passes through the cooling tower. An estimate of total and speciated strippable VOC is acceptable when measured by:

(A) the method in Appendix P of the Texas Commission on Environmental Quality (commission) Sampling Procedures Manual, January 2003;

(B) a method approved by the executive director that can produce equivalent results as compared to the method in Appendix P; or

(C) a method approved by the executive director that determines VOCs emitted from the cooling tower by VOC mass balance across the cooling tower.

(40) **Synthetic organic chemical manufacturing process** - A process that produces, as intermediates or final products, one or more of the chemicals listed in 40 Code of Federal Regulations §60.489 (October 17, 2000).

(41) **Tank-truck tank** - Any storage tank having a capacity greater than 1,000 gallons, mounted on a tank-truck or trailer. Vacuum trucks used exclusively for maintenance and spill response are not considered to be tank-truck tanks.

(42) **Transport vessel** - Any land-based mode of transportation (truck or rail) that is equipped with a storage tank having a capacity greater than 1,000 gallons which is used to transport oil, gasoline, or other volatile organic liquid bulk cargo. Vacuum trucks used exclusively for maintenance and spill response are not considered to be transport vessels.

(43) **True partial pressure** - The absolute aggregate partial pressure (psia) of all VOC in a gas stream.

(44) **Vapor balance system** - A system which provides for containment of hydrocarbon vapors by returning displaced vapors from the receiving vessel back to the originating vessel.

(45) **Vapor control system or vapor recovery system** - Any control system which utilizes vapor collection equipment to route VOC to a control device that reduces VOC emissions.

(46) **Vapor-tight** - Not capable of allowing the passage of gases at the pressures encountered except where other acceptable leak-tight conditions are prescribed in this chapter.

(47) **Waxy, high pour point crude oil** - A crude oil with a pour point of 50 degrees Fahrenheit (10 degrees Celsius) or higher as determined by the American Society for Testing and Materials Standard D97-66, "Test for Pour Point of Petroleum Oils."

**SUBCHAPTER C: VOLATILE ORGANIC COMPOUND TRANSFER OPERATIONS**

**DIVISION 1: LOADING AND UNLOADING OF VOLATILE ORGANIC COMPOUNDS**

**§115.216, §115.217**

**STATUTORY AUTHORITY**

The amendments are adopted under Texas Water Code, §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 Texas Water Code; and under Texas Health and Safety Code, §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amendments are also adopted under Texas Health and Safety Code, §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; §382.012, concerning State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, which authorizes the commission to require persons whose activities cause air contaminant emissions to submit information regarding emissions of air contaminants; and §382.016, concerning Monitoring Requirements: Examination of Records, which authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants.

**§115.216. Monitoring and Recordkeeping Requirements.**

The owner or operator of each volatile organic compound (VOC) loading or unloading operation in the covered attainment counties or in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas shall maintain the following information for at least two years at the plant, as defined by its air quality account number. The owner or operator shall make the information available upon request to representatives of the executive director, EPA, or any local air pollution control agency having jurisdiction in the area.

(1) Vapor control systems. For vapor control systems used to control emissions from VOC transfer operations, records of appropriate parameters to demonstrate compliance, including:

(A) continuous monitoring and recording of:

(i) the exhaust gas temperature immediately downstream of a direct-flame incinerator;

(ii) the inlet and outlet gas temperature of a chiller or catalytic incinerator;

(iii) the exhaust gas VOC concentration of a carbon adsorption system, as defined in §101.1 of this title (relating to Definitions); and

(iv) the exhaust gas temperature immediately downstream of a vapor combustor. Alternatively, the owner or operator of a vapor combustor may consider the unit to be a flare and meet the requirements of subparagraph (B) of this paragraph;

(B) the requirements specified in 40 Code of Federal Regulations §60.18(b) and Chapter 111 of this title (relating to Control of Air Pollution from Visible Emissions and Particulate Matter) for flares; and

(C) for vapor control systems other than those specified in subparagraphs (A) and (B) of this paragraph, records of appropriate operating parameters.

(2) Test results. A record of the results of any testing conducted in accordance with §115.215 of this title (relating to Approved Test Methods).

(3) Land-based VOC transfer to or from transport vessels.

(A) A daily record of:

(i) the identification number of each tank-truck tank for which annual leak testing is required under §115.214(a)(1)(C) or (b)(1)(C) of this title (relating to Inspection Requirements);

(ii) the quantity of VOC loaded into each transport vessel; and

(iii) the date of the last leak testing of each tank-truck tank as required by §115.214(a)(1)(C) or (b)(1)(C) of this title.

(B) A record of the type and vapor pressure of each VOC transferred (excluding gasoline). Vapor pressure records are not required if the total volume of VOC loaded into transport vessels is less than 20,000 gallons per day (averaged over each consecutive 30-day period).

(C) The owner or operator of any plant, as defined by its air quality account number, at which all VOC transferred has a true vapor pressure at actual storage conditions less than 0.5 pounds per square inch, absolute (psia) as specified in §115.217(a)(1) of this title (relating to Exemptions) or 1.5 psia as specified in §115.217(b)(1) of this title, is not required to keep the records specified in subparagraph (A) of this paragraph.

(D) The owner or operator of any plant, as defined by its air quality account number, that is exempt under §115.217(a)(2)(A) or (B), or §115.217(b)(3)(A) or (B) of this title based upon gallons per day transferred shall maintain a daily record of the total throughput of gasoline or of VOC equal to or greater than 0.5 or 1.5 psia vapor pressure, as appropriate, loaded into transport vessels at the plant.

(E) For gasoline terminals, records of the results of the fugitive monitoring and maintenance program required by §115.214(a)(2) and (b)(2) of this title:

(i) a description of the types, identification numbers, and locations of all equipment in gasoline service;

(ii) the date of each monthly inspection;

(iii) the results of each inspection;

(iv) the location, nature, severity, and method of detection for each leak;

(v) the date each leak is repaired and explanation if repair is delayed beyond 15 days;

(vi) a list identifying those leaking components which cannot be repaired or replaced until a scheduled unit shutdown; and

(vii) the inspector's name and signature.

(4) Marine terminals. For marine terminals in the Houston/Galveston area:

(A) a daily record of all marine vessels loaded at the affected terminal,  
including:

(i) the name, registry of the marine vessel, and the legal owner or  
operator of the marine vessel;

(ii) the chemical name and amount of VOC cargo loaded; and

(iii) the conditions of the tanks prior to being loaded (i.e., cleaned,  
crude oil washed, gas freed, etc.) and the prior cargo carried by the marine vessel;

(B) a copy of each marine vessel's vapor tightness test documentation or  
records documenting compliance with the alternate methods specified in §115.214(a)(3)(A) of this title;

(C) a copy of each marine vessel's first attempt repair log required by  
§115.214(a)(3)(D) of this title;

(D) records of the results of the fugitive monitoring and maintenance program  
required by §115.214(a)(3)(F) of this title, including appropriate dates, test methods, instrument  
readings, repair results, and corrective action taken. Records of flange inspections are not required  
unless a leak is detected.

**§115.217. Exemptions.**

(a) The following exemptions apply in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas.

(1) Vapor pressure (at land-based operations). All land-based loading and unloading (to or from transport vessels) of volatile organic compounds (VOC) with a true vapor pressure less than 0.5 pounds per square inch, absolute (psia) under actual storage conditions is exempt from the requirements of this division (relating to Loading and Unloading of Volatile Organic Compounds), except for:

(A) §115.212(a)(2) of this title (relating to Control Requirements);

(B) §115.214(a)(1)(A)(i) and (B) of this title (relating to Inspection Requirements);

(C) §115.215(4) of this title (relating to Approved Test Methods); and

(D) §115.216(2) and (3)(B) of this title (relating to Monitoring and Recordkeeping Requirements).

(2) Throughput.

(A) Loading operations at any plant, as defined by its air quality account number, excluding gasoline bulk plants, which loads less than 20,000 gallons of VOC into transport vessels per day (averaged over each consecutive 30-day period) with a true vapor pressure greater than or equal to 0.5 psia under actual storage conditions are exempt from the requirements of this division, except for:

- (i) §115.212(a)(2) of this title;
- (ii) §115.214(a)(1)(A)(i) and (B) of this title;
- (iii) §115.215(4) of this title; and
- (iv) §115.216(2), (3)(B), and (3)(D) of this title.

(B) Gasoline bulk plants which load less than 4,000 gallons of gasoline into transport vessels per day (averaged over each consecutive 30-day period) are exempt from the requirements of this division, except for:

- (i) §115.212(a)(2) of this title;
- (ii) §115.214(a)(1)(A)(i) and (B) of this title; and

(iii) §115.216(3)(D) of this title.

(3) Liquefied petroleum gas. All loading and unloading of liquefied petroleum gas is exempt from the requirements of this division, except for:

(A) §115.212(a)(2) of this title;

(B) §115.214(a)(1)(A)(i) and (B) of this title; and

(C) §115.216(3) of this title.

(4) Motor vehicle fuel dispensing facilities. Motor vehicle fuel dispensing facilities, as defined in §101.1 of this title (relating to Definitions), are exempt from the requirements of this division.

(5) Marine vessels. The following marine vessel transfer exemptions apply.

(A) The following marine vessel transfer operations are exempt from this division:

(i) all loading and unloading of marine vessels in ozone nonattainment areas other than the Houston/Galveston area; and

(ii) transfer of VOC from one marine vessel to another marine vessel (“lightering”), provided that the VOC transfer does not use loading arm(s), pump(s), meter(s), valve(s), or piping that are part of a marine terminal.

(B) The following marine vessel transfer operations are exempt from the requirements of §§115.212(a), 115.214(a), and 115.216 of this title, except as noted:

(i) all unloading of marine vessels, except for §115.214(a)(3)(B)(i) and (C) and §115.216(2) of this title;

(ii) marine terminals with uncontrolled marine loading VOC emissions less than 100 tons per year, except for §115.214(a)(3)(B)(i) and (C) and §115.216(2) of this title. Emissions from marine vessel loading operations which were routed to a control device that was installed as of November 15, 1993, are excluded from this calculation. Compliance with this exemption shall be demonstrated through the recordkeeping and reporting requirements of the annual emissions inventory submitted by the owner or operator of the marine terminal;

(iii) all throughput of VOC with a vapor pressure less than 0.5 psia loaded into marine vessels, except for §§115.212(a)(6)(D), 115.214(a)(3)(B)(i) and (C), and 115.216(2) of this title; and

(iv) all throughput of VOC with a flash point of 150 degrees

Fahrenheit or greater loaded into marine vessels, except for §§115.212(a)(6)(D), 115.214(a)(3)(B)(i) and (C), and 115.216(2) of this title.

(b) The following exemptions apply in the covered attainment counties.

(1) General VOCs (non-gasoline). Except in Aransas, Bexar, Calhoun, Gregg, Matagorda, Nueces, San Patricio, Travis, and Victoria Counties, all loading and unloading of VOC other than gasoline (to or from transport vessels) is exempt from the requirements of this division.

(2) Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 1.5 psia under actual storage conditions is exempt from the requirements of this division, except for:

(A) §115.212(b)(2) of this title;

(B) §115.214(b)(1)(A)(i) and (B) of this title;

(C) §115.215(4) of this title; and

(D) §115.216(2) and (3)(B) of this title.

(3) Throughput.

(A) Loading operations at any plant, as defined by its air quality account number, excluding gasoline bulk plants, which loads less than 20,000 gallons of VOC into transport vessels per day (averaged over each consecutive 30-day period) with a true vapor pressure greater than or equal to 1.5 psia under actual storage conditions are exempt from the requirements of this division, except for:

(i) §115.212(b)(2) of this title;

(ii) §115.214(b)(1)(A)(i) and (B) of this title;

(iii) §115.215(4) of this title; and

(iv) §115.216(2), (3)(B), and (3)(D) of this title.

(B) Gasoline bulk plants which load less than 4,000 gallons of gasoline into transport vessels per day (averaged over each consecutive 30-day period) are exempt from the requirements of this division, except for:

(i) §115.212(b)(2) of this title;

(ii) §115.214(b)(1)(A)(i) and (B) of this title; and

(iii) §115.216(3)(D) of this title.

(4) Crude oil, condensate, and liquefied petroleum gas. All loading and unloading of crude oil, condensate, and liquefied petroleum gas is exempt from the requirements of this division, except for:

(A) §115.212(b)(2) of this title;

(B) §115.214(b)(1)(A)(i) and (B) of this title; and

(C) §115.216(3) of this title.

(5) Motor vehicle fuel dispensing facilities. Motor vehicle fuel dispensing facilities, as defined in §101.1 of this title, are exempt from the requirements of this division.

(6) Marine vessels. All loading and unloading of marine vessels is exempt from this division.

**SUBCHAPTER D: PETROLEUM REFINING, NATURAL GAS PROCESSING, AND  
PETROCHEMICAL PROCESSES**

**DIVISION 3: FUGITIVE EMISSION CONTROL IN PETROLEUM REFINING, NATURAL  
GAS/GASOLINE PROCESSING, AND PETROCHEMICAL PROCESSES**

**IN OZONE NONATTAINMENT AREAS**

**§§115.352, 115.354, 115.357, 115.359**

**STATUTORY AUTHORITY**

The amendments are adopted under Texas Water Code, §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 Texas Water Code; and under Texas Health and Safety Code, §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amendments are also adopted under Texas Health and Safety Code, §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; §382.012, concerning State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, which authorizes the commission to require persons whose activities cause air contaminant emissions to submit information regarding emissions of air contaminants; and §382.016, concerning Monitoring Requirements: Examination of Records, which

authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants.

**§115.352. Control Requirements.**

For the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas as defined in §115.10 of this title (relating to Definitions), no person shall operate a petroleum refinery; a synthetic organic chemical, polymer, resin, or methyl tert-butyl ether manufacturing process; or a natural gas/gasoline processing operation, as defined in §115.10 of this title, without complying with the following requirements.

(1) Except as provided in paragraph (2) of this section, no component shall be allowed to have a volatile organic compound (VOC) leak for more than 15 calendar days after the leak is found which exceeds the following:

(A) for all components except pump seals and compressor seals, a screening concentration greater than 500 parts per million by volume (ppmv) above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound; and

(B) for pump seals and compressor seals, a screening concentration greater than 10,000 ppmv above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.

(2) A first attempt at repair shall be made no later than five calendar days after the leak is found and the component shall be repaired no later than 15 calendar days after the leak is found, except as provided in subparagraphs (A) - (C) of this paragraph. A component in gas/vapor or light liquid service is considered to be repaired when it is monitored with an instrument using EPA Test Method 21 in 40 Code of Federal Regulations, Part 60, Appendix A (October 17, 2000) and shown to no longer have a leak after adjustments or alterations to the component. A component in heavy liquid service is considered to be repaired when it is inspected by audio, visual, and olfactory means and shown to no longer have a leak after adjustments or alterations to the component.

(A) If the repair of a component within 15 days after the leak is detected would require a process unit shutdown which would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled process unit shutdown, provided that:

(i) the owner or operator maintains, and makes available upon request, documentation to authorized representatives of EPA, the executive director, and any local air pollution control agency having jurisdiction which includes a calculation of:

(I) the expected mass emissions resulting from the next scheduled process unit shutdown, clearing, and subsequent startup of the unit, including the basis for the calculation and all assumptions made;

(II) the mass emission rates from each leaking component in the process unit for which delay of repair is sought as determined by using the methods in the EPA correlation approach in Section 2.3.3 of the EPA guidance document "Protocol for Equipment Leak Emission Estimates," (EPA-453/R-95-017, November, 1995) alone or in combination with the mass emission sampling approach in Chapter 4 of the guidance document (EPA-453/R-95-017, November, 1995). To use the EPA correlation approach, the estimated hourly mass emission rate for each component shall be based on the average of the component's current screening concentration and the previous screening concentration using Test Method 21 for the days between the two monitoring efforts, and the last screening concentration shall be used for the days following that last monitoring through the date of the planned process unit shutdown. Where the monitoring instrument is not calibrated to read past the leak definition or 100,000 ppmv, the pegged emission rate values in Tables 2-13 and 2-14 in Section 2.3.3 of the EPA guidance document "Protocol for Equipment Leak Emission Estimates" shall be used as appropriate. Leaking components in heavy liquid service shall be assigned the appropriate screening range leak rate for greater than 10,000 ppmv as defined in Section 2.3.2 of the guidance document. If the mass emission sampling approach is used, it replaces the estimated emissions rate of the EPA correlation approach in the calculation;

(III) the cumulative mass emissions from each leaking component in the process unit for which delay of repair is sought, from the date the leak is found through the date of the next planned process unit shutdown; and

(IV) the total cumulative mass emissions in the process unit from the calculations made in subclause (III) of this clause for leaking components in the unit for which delay of repair is sought; and

(ii) the total cumulative mass emissions from leaking components in the process unit for which delay of repair is sought as determined in clause (i)(IV) of this subparagraph, assessed from the time that each additional leaking component is identified or at the time of any other changes to the emissions estimates, from the date of the change forward, will be less than the mass emissions resulting from shutdown, clearing, and subsequent startup of the unit as determined in clause (i)(I) of this subparagraph; or

(iii) as an alternative to the requirements of clause (i) and (ii) of this subparagraph, delay of repair is allowed for each leaking component for which the owner or operator has chosen to undertake “extraordinary efforts” to repair the leak. For purposes of this subparagraph, “extraordinary efforts” is defined as nonroutine repair methods (e.g., sealant injection) or utilization of a closed-vent system to capture and control the leaks by at least 90%. For leaks detected over 10,000 ppmv, extraordinary efforts shall be undertaken within 22 calendar days after the leak is found; however, the owner or operator may keep the leaking valve on the shutdown list only after two unsuccessful attempts to repair a leaking valve through extraordinary efforts, provided that the second extraordinary effort attempt is made within 37 calendar days after the leak is found. For all other leaks, extraordinary efforts shall be undertaken within 30 calendar days after the leak is found, and a second extraordinary effort attempt is not required.

(B) Process unit shutdown and component repairs are required within 15 days of the day that leaks are determined to exceed the requirement of subparagraph (A)(ii) of this paragraph for components that were not subjected to extraordinary efforts, and except as provided in subparagraph (C) of this paragraph, each component for which repair has been delayed must be repaired or replaced at the next process unit shutdown.

(C) Delay of repair beyond a process unit shutdown will be allowed for a component if that component is isolated from the process and does not remain in VOC service.

(D) Valves that can be safely repaired without a process unit shutdown may not be placed on the shutdown list. However, the use of “extraordinary efforts,” as described in subparagraph (A)(iii) of this paragraph, is not required for a valve to be eligible for the shutdown list.

(E) All components in gas/vapor or light liquid service for which a repair attempt was made during a shutdown shall be monitored (with a hydrocarbon gas analyzer) and inspected for leaks within 30 days after startup is completed following the process unit shutdown. All components in heavy liquid service for which a repair attempt was made during a shutdown shall be inspected for leaks within 30 days after startup is completed following the process unit shutdown.

(3) All leaking components, as defined in paragraph (1) of this section, which cannot be repaired until a process unit shutdown shall be identified for such repair by tagging. The executive

director, at his discretion, may require an early process unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting a process unit shutdown.

(4) 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, or a tightly-fitting plug or cap. The sealing device may be removed only while a sample is being taken or during maintenance operations, and when closing the line, the upstream valve shall be closed first.

(5) Construction of new and reworked piping, valves, and pump and compressor systems shall conform to applicable American National Standards Institute, American Petroleum Institute, American Society of Mechanical Engineers, or equivalent codes.

(6) New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical.

(7) To the extent that good engineering practice will permit, new and reworked components shall be so located to be reasonably accessible for leak-checking during plant operation. Components elevated more than two meters above a support surface will be considered nonaccessible. Nonaccessible components shall be identified in a list to be made available upon request.

(8) New and reworked piping connections shall be welded, flanged, or consist of pressed and permanently formed metal-to-metal seals. Screwed connections are permissible only on

new piping smaller than two inches in diameter. All new connections shall be checked for leaks within 30 days of being placed in VOC service by monitoring with a hydrocarbon gas analyzer for components in light liquid and gas service and by using visual, audio, and/or olfactory means for components in heavy liquid service.

(9) For pressure relief valves installed in series with a rupture disk, pin, second relief valve, or other similar leak-tight pressure relief component, a pressure gauge or an equivalent device or system shall be installed between the relief valve and the other pressure relief component to monitor for leakage past the first component. When leakage is detected past the first component, that component shall be repaired or replaced at the earliest opportunity, but no later than the next process unit shutdown. Equivalent devices or systems shall be identified in a list to be made available upon request and must have been approved by the methods required by §115.353 of this title (relating to Alternate Control Requirements).

(10) Any petroleum refinery; synthetic organic chemical, polymer, resin, or methyl tert-butyl ether manufacturing process; or natural gas/gasoline processing operation in the Houston/Galveston area in which a HRVOC, as defined in §115.10 of this title, is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of Subchapter H of this chapter (relating to Highly-Reactive Volatile Organic Compounds) in addition to the applicable requirements of this division (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas).

**§115.354. Inspection Requirements.**

All affected persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/  
Galveston areas shall conduct a monitoring program consistent with the following provisions.

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

(A) process drains;

(B) nonaccessible components as identified in §115.352(7) of this title (relating  
to Control Requirements); and

(C) unsafe to monitor components. An unsafe to monitor component is a  
component that the owner or operator determines is unsafe to monitor because monitoring personnel  
would be exposed to an immediate danger as a consequence of complying with paragraph (2) of this  
section. Components which are unsafe to monitor shall be identified in a list made available upon  
request. If an unsafe to monitor component is not considered safe to monitor within a calendar year,  
then it shall be monitored as soon as possible during safe to monitor times.

(2) Measure each calendar quarter (with a hydrocarbon gas analyzer) the screening  
concentration from all:

(A) compressor seals;

(B) pump seals;

(C) accessible valves; and

(D) pressure relief valves in gaseous service.

(3) Inspect weekly, by visual, audio, and/or olfactory means, all flanges, excluding flanges in the Houston/Galveston area that are monitored using EPA Test Method 21 in 40 Code of Federal Regulations, Part 60, Appendix A (October 17, 2000) as required by §115.781(b)(3) of this title (relating to General Monitoring and Inspection Requirements).

(4) Measure (with a hydrocarbon gas analyzer) emissions from any relief valve which has vented to the atmosphere within 24 hours.

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

(6) The monitoring schedule of paragraphs (1) - (3) of this section may be modified to require an increase in the frequency of monitoring in a given process area if the executive director determines that there is an excessive number of leaks in that process area.

(7) After completion of the required quarterly valve monitoring for a period of at least two years, the operator of a petroleum refinery; synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process; or a natural gas/gasoline processing operation may request in writing to the executive director that the valve 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 (including valves which have been classified as non-repairable under §115.357(8) of this title (relating to Exemptions)) 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.

(A) 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.

(B) 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.

(8) Alternate monitoring schedules approved before November 15, 1996, under §§115.324(a)(8)(A), 115.334(3)(A), and 115.344(3)(A) of this title (relating to Inspection Requirements), as in effect December 3, 1993, are approved monitoring schedules for the purposes of paragraph (7) of this section.

(9) All component monitoring shall occur when the component is in contact with process material and the process unit is in service. If a unit is not operating during the required monitoring period but a component in that unit is in contact with process fluid which is circulating or under pressure, then that component is considered to be in service and is required to be monitored. Valves must be in gaseous or light liquid service to be considered in the total valve count for alternate valve monitoring schedules of paragraph (7) of this section.

(10) Except as provided in subparagraph (B) of this paragraph, the owner or operator shall use dataloggers and/or electronic data collection devices during all monitoring required by this section. The owner or operator shall use best efforts to transfer, on a daily basis, electronic data from electronic datalogging devices to the database required by §115.356(2) of this title (relating to Monitoring and Recordkeeping Requirements).

(A) For all monitoring events in which an electronic data collection device is used, the collected monitoring data shall include the identification of each component and each calibration run, the maximum screening concentration detected, the time of monitoring (i.e., the time that the organic vapor concentration is read or recorded for each component), a date stamp, an operator

identification, an instrument identification, and calibration gas concentrations and certification dates.

The acceptable rate for recording data shall be determined individually by each owner or operator considering such factors including, but not limited to, the size of the equipment, the equipment type, the accessibility of the equipment, the number of leakers being found, and the skill of the monitoring technicians. Each owner or operator shall have a documented auditing process in place to assure proper calibration, identify response time failures, and assess pace anomalies.

(B) The owner or operator may use paper logs where necessary or more feasible (e.g., small rounds (less than 100 components), re-monitoring following component repair, or when dataloggers are broken or not available), and shall record, at a minimum, the information required in subparagraph (A) of this paragraph. For audio, visual, and olfactory inspections, the owner or operator shall record, at a minimum, the identification of the person conducting the inspection, the date, and the area that was inspected. The owner or operator shall transfer any manually recorded monitoring data to the database required by §115.356(2) of this title within seven days of monitoring.

(C) Each change to the database regarding the monitored concentration, date and time read, repair information, addition or deletion of components, or monitoring schedule shall be detailed in a log or inserted as a notation in the database. All such changes shall include the name of the person who made the change, the date of the change, and an explanation to support the change.

(11) Monitored screening concentrations must be recorded for each component in gaseous or light liquid service. Notations such as “pegged,” “off scale,” “leaking,” “not leaking,” or

“below leak definition” may not be substituted for hydrocarbon gas analyzer results. For readings that are higher than the upper end of the scale (i.e., pegged) even when using the highest scale setting or a dilution probe, record a default pegged value of 100,000 parts per million by volume.

(12) All exemptions for valves with a nominal size of two inches or less expired on July 31, 1992 (final compliance date).

**§115.357. Exemptions.**

For all affected persons in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas, the following exemptions shall apply.

(1) Components that contact a process fluid containing volatile organic compounds (VOCs) having a true vapor pressure equal to or less than 0.044 pounds per square inch, absolute (psia) (0.3 kPa) at 68 degrees Fahrenheit (20 degrees Celsius) are exempt from the instrument monitoring (with a hydrocarbon gas analyzer) requirements of §115.354(1) and (2) of this title (relating to Inspection Requirements) if the components are inspected visually according to the inspection schedules specified in §115.354(1) and (2) of this title.

(2) Conservation vents or other devices on atmospheric storage tanks that are actuated either by a vacuum or a pressure of no more than 2.5 pounds per square inch, gauge (psig), pressure relief valves equipped with a rupture disk or venting to a control device, components in continuous

vacuum service, and valves that are not externally regulated (such as in-line check valves) are exempt from the requirements of this division (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas), except that each pressure relief valve equipped with a rupture disk shall comply with §115.352(9) of this title (relating to Control Requirements).

(3) Compressors in hydrogen service are exempt from the requirements of §115.354 of this title if the owner or operator demonstrates that the percent hydrogen content can be reasonably expected to always exceed 50.0% by volume.

(4) All pumps and compressors which are equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal are exempt from the monitoring requirement of §115.354 of this title. These seal systems may include, but are not limited to, dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned or magnetic driven pumps) may be used to satisfy the requirements of this paragraph.

(5) Reciprocating compressors and positive displacement pumps used in natural gas/gasoline processing operations are exempt from the requirements of this division.

(6) Components at a petroleum refinery or synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process, which contact a process fluid that contains less than 10% VOC by weight and components at a natural gas/gasoline processing operation which contact a process fluid that contains less than 1.0% VOC by weight are exempt from the requirements of this division.

(7) Plant sites covered by a single account number with less than 250 components in VOC service are exempt from the requirements of this division.

(8) Components in ethylene, propane, or propylene service, not to exceed 5.0% of the total components, may be classified as non-repairable beyond the second repair attempt at 500 parts per million by volume (ppmv). These components will remain in the fugitive monitoring program and be repaired no later than 15 calendar days after the concentration of VOC detected via EPA Test Method 21 in 40 Code of Federal Regulations (CFR), Part 60, Appendix A (October 17, 2000) exceeds 10,000 ppmv. For the purposes of this division, components which contact a process fluid with greater than 85% ethylene, propane, or propylene by weight are considered in ethylene, propane, or propylene service, respectively.

(9) The following valves are exempt from the requirements of §115.352(4) of this title:

(A) pressure relief valves;

(B) open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of an emissions event;

(C) open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system; and

(D) valves rated greater than 10,000 psig.

(10) Connectors in instrumentation systems, as defined in 40 CFR §63.161 (January 17, 1997), that meet 40 CFR §63.169 (June 20, 1996) are exempt from the requirements of this division.

(11) In the Houston/Galveston area, the requirements of Subchapter H of this chapter (relating to Highly-Reactive Volatile Organic Compounds) apply to components which qualify for one or more of the exemptions in paragraphs (1) - (10) of this section at any petroleum refinery; synthetic organic chemical, polymer, resin, or methyl tert-butyl ether manufacturing process; or natural gas/gasoline processing operation in which a highly-reactive volatile organic compound, as defined in §115.10 of this title (relating to Definitions), is a raw material, intermediate, final product, or in a waste stream.

**§115.359. Counties and Compliance Schedules.**

The owner or operator of each affected source in Brazoria, Chambers, Collin, El Paso, Dallas, Denton, Fort Bend, Galveston, Hardin, Harris, Jefferson, Liberty, Montgomery, Orange, Tarrant, and Waller Counties shall:

(1) continue to comply with this division (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas) as required by §115.930 of this title (relating to Compliance Dates);

(2) comply with §115.356(2)(C) and (D) of this title (relating to Monitoring and Recordkeeping Requirements) as soon as practicable, but no later than March 31, 2004; and

(3) develop and make available upon request to the executive director, EPA, and any local air pollution control agency having jurisdiction the recordkeeping required by §115.356(1), (3), and (4) of this title as soon as practicable, but no later than March 31, 2004.

**SUBCHAPTER H: HIGHLY-REACTIVE VOLATILE ORGANIC COMPOUNDS**

**DIVISION 1: VENT GAS CONTROL**

**§§115.722, 115.725 - 115.727, 115.729**

**STATUTORY AUTHORITY**

The amendments are adopted under Texas Water Code, §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 Texas Water Code; and under Texas Health and Safety Code, §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amendments are also adopted under Texas Health and Safety Code, §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; §382.012, concerning State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, which authorizes the commission to require persons whose activities cause air contaminant emissions to submit information regarding emissions of air contaminants; and §382.016, concerning Monitoring Requirements: Examination of Records, which authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants.

**§115.722. Site-wide Cap and Control Requirements.**

(a) Emissions of highly-reactive volatile organic compounds (HRVOC) at each account subject to this division (relating to Vent Gas Control) or Division 2 of this subchapter (relating to Cooling Tower Heat Exchange Systems) are limited to a 24-hour rolling average as specified in Table 6-2.1, Initial HRVOC Site-Cap Allocations: Harris County, and Table 6-2.2, Initial HRVOC Site-Cap Allocations: Seven Surrounding Counties, of the *Post-1999 Rate-of-Progress and Attainment Demonstration Follow-up SIP for the Houston/Galveston Ozone Nonattainment Area* adopted on December 13, 2002.

(b) All flares shall continuously meet the requirements of 40 Code of Federal Regulations §60.18(c) - (f) as amended through October 17, 2000 (65 FR 61744) when vent gas containing volatile organic compounds is being routed to the flare.

(c) An owner or operator may not use emission reduction credits or discrete emission reduction credits in order to demonstrate compliance with this division.

**§115.725. Monitoring and Testing Requirements.**

(a) Each vent gas stream at an account must be tested by applying the appropriate reference method tests and procedures specified in §115.125 of this title (relating to Testing Requirements) to establish maximum potential highly-reactive volatile organic compound (HRVOC) hourly emission data

expected during any operation not defined as an emissions event or a scheduled maintenance, startup, or shutdown activity under §101.1 of this title (relating to Definitions). The data shall be used in accordance with the test plan required under §115.726 of this title (relating to Recordkeeping and Reporting Requirements) to demonstrate compliance with the control requirement of §115.722(a) of this title (relating to Site-wide Cap and Control Requirements).

(b) Alternatives to the testing requirements of subsection (a) of this section, for vent gas streams that are not controlled by a flare, include the following.

(1) The vent gas stream may be equipped with a continuous emissions monitoring system (CEMS), provided that:

(A) the CEMS meets the monitoring requirements of 40 Code of Federal Regulations (CFR) §60.13(b) and (d) - (f);

(B) the monitor shall initially and at a minimum annually thereafter be subjected to a cylinder gas audit per 40 CFR Part 60, Appendix B, Performance Specification 2, Section 16 to assess system bias and ensure accuracy; and

(C) the measured concentration shall be used in combination with process knowledge estimated flow rate to determine the hourly HRVOC emission rate.

(2) Process knowledge, including scientific calculations and other process monitoring data, may be used to determine maximum potential HRVOC hourly emission data. Types of processes that may use process knowledge in lieu of testing are:

(A) analyzer vents;

(B) pressure relief valves;

(C) steam system vents; or

(D) vent gas streams where there is no HRVOC present except during emissions events.

(c) Testing using the appropriate reference methods and procedures specified in §115.125 of this title which was conducted before approval of the test plan required under §115.726(a) of this title may be used in lieu of conducting the testing specified in subsection (a) of this section, provided that:

(1) the owner or operator of the affected source obtains approval for the testing report and data from the executive director; and

(2) the testing establishes maximum potential HRVOC emissions data expected during any operation that is not defined as an emissions event or a scheduled maintenance, startup, or shutdown activity under §101.1 of this title.

(d) Except as specified in subsection (e) of this section, the owner or operator of an affected flare shall conduct continuous monitoring, as follows:

(1) install, calibrate, maintain, and operate a continuous flow monitoring system capable of measuring the flow rate over the full potential range of operation. The executive director may approve alternative means of determining the flare flow rate for a period of time not to exceed 1.0% of the annual operating time of the flare. The monitoring system shall be capable of measuring the entire gas stream flow to the flare (i.e., all vent gas and supplemental fuel sources) and may consist of one or more flow measurements at one or more header locations. For correcting flow rate to standard conditions (defined as 68 degrees Fahrenheit and 760 millimeters of mercury (mm Hg)), temperature and pressure in the main flare header shall be monitored continuously. The monitors shall be calibrated to meet accuracy specifications as follows:

(A) the temperature monitor shall be calibrated annually to within  $\pm 2.0\%$  at absolute temperature;

(B) the pressure monitor shall be calibrated annually to within  $\pm 5.0$  mm Hg;

and

(C) the flow monitor, or velocity monitor used to determine flow rate, shall be initially calibrated, prior to installation, to demonstrate accuracy to within 5.0% at flow rates equivalent to 30%, 60%, and 90% of monitor full scale. After installation, the flow monitor or velocity monitor shall be calibrated annually according to manufacturer's specifications;

(2) install, calibrate, maintain, and operate an on-line analyzer system capable of determining HRVOC at least once every 15 minutes. The on-line analyzer system shall also be capable of measuring, at least once every 15 minutes, other potential constituents (e.g., hydrogen, nitrogen, methane, and carbon dioxide, and volatile organic compounds (VOC) other than HRVOCs) sufficient to determine the molecular weight and net heating value of the gas combusted in the flare to within 5.0%. Samples shall be collected from a location on the main flare header such that the measured constituents, including any supplementary fuel, is representative of the combined gas combusted in the flare system. Calibration of the on-line analyzer shall follow the procedures and requirements of Section 10.0 of 40 CFR Part 60, Appendix B, Performance Specification 9, as amended through October 17, 2000 (65 FR 61744), except that the multi-point calibration procedure in Section 10.1 of Performance Specification 9 shall be performed at least once every calendar quarter instead of once every month, and the mid-level calibration check procedure in Section 10.2 of Performance Specification 9 shall be performed at least once every calendar week instead of once every 24 hours. The calibration gases used for calibration procedures shall be in accordance with Section 7.1 of Performance Specification 9. Net heating value of the gas combusted in the flare shall be calculated according to the equation given in 40 CFR §60.18(f)(3) as amended through October 17, 2000 (65 FR 61744). The samples shall be used to

continuously meet the minimum net heating value requirements of 40 CFR §60.18 and the site-wide cap of §115.722 of this title. Pilot gas shall not be included in the determination of the net heating value;

(3) continuously operate each monitoring system as required by this section at least 95% of the time when the flare is operational, averaged over a calendar year;

(4) during any period of monitor downtime of the on-line analyzer specified in paragraph (2) of this subsection exceeding eight consecutive hours, take a sample daily, starting within 24 hours of the initial on-line analyzer malfunction. The sampling location must be such that the measured constituents, including any supplementary fuel, is representative of all of the major constituents going to the flare system. For determining the HRVOC concentrations in the flare header gas, the samples shall be analyzed for the concentrations of HRVOC according to the procedures in 40 CFR Part 60, Appendix A, Method 18 as amended through October 17, 2000 (65 FR 61744). Samples shall also be analyzed by American Standard of Testing Materials Standard D1946-77 to determine other potential constituents (e.g., hydrogen, nitrogen, methane, and carbon dioxide, and VOCs other than HRVOCs) sufficient to determine the molecular weight and net heating value of the gas combusted in the flare to within 5.0%. Net heating value of the gas combusted in the flare shall be calculated according to the equation given in 40 CFR §60.18(f)(3). During periods of monitor downtime, these samples shall be used to demonstrate that the minimum net heating value requirements of 40 CFR §60.18 and the site-wide cap of §115.722 of this title are met;

(5) every 15 minutes, calculate the net heating value of the gas combusted in the flare according to the equation given in 40 CFR §60.18(f)(3). Pilot gas shall not be included in the determination of the net heating value. Average net heating value over an one-hour block period will be used to demonstrate compliance with the minimum net heating value requirements of §115.722(b) of this title;

(6) calculate the HRVOC hourly average mass emission rates from the flare using the data gathered according to paragraphs (1) - (4) of this subsection, assuming a 99% destruction efficiency for ethylene and propylene and a 98% destruction efficiency for all other HRVOCs when the flare meets the heating value and exit velocity requirements of 40 CFR §60.18. During each 15-minute period when the flare is not in compliance with the heating value or exit velocity requirements of 40 CFR §60.18, a destruction efficiency of 93% shall be assumed to calculate HRVOC mass emission rates;

(7) calculate the actual exit velocity of the flare every 15 minutes based on continuous flow rate, temperature, and pressure monitor data, according to 40 CFR §60.18(f)(4). Average exit velocity over an one-hour block period shall be used to demonstrate compliance with the maximum exit velocity requirements of §115.722(b) of this title; and

(8) submit for approval by the executive director any minor modifications to these monitoring methods. Monitoring methods other than those specified in paragraphs (1) and (2) of this subsection may be used if approved by the executive director and validated by 40 CFR Part 63,

Appendix A, Test Method 301 (December 29, 1992). For the purposes of this paragraph, substitute “executive director” in each place that Test Method 301 references “administrator.”

(e) Flares used solely for abatement of emissions from loading operations for transport vessels or temporary portable flares used solely for the abatement of emissions from scheduled maintenance or startup or shutdown activities are not required to comply with the monitoring requirements of subsection (d) of this section, provided the following specific requirements are satisfied.

(1) Flares used solely for abatement of emissions from loading operations for transport vessels shall satisfy all of the following requirements.

(A) A calorimeter shall be calibrated, installed, operated, and maintained, in accordance with manufacturer recommendations, to continuously measure and record the net heating value of the gas sent to the flare, in British thermal units/standard cubic foot of the gas.

(B) Records of each loading activity are maintained, including, but not limited to:

(i) the type of vessel being loaded;

(ii) the start time and the end time for each vessel loaded;

(iii) the compounds loaded, in addition to the compounds loaded into the vessel immediately previous to the current loading operation, if the vessel being loaded is not clean;

(iv) the quantity of material loaded;

(v) the loading rate in gallons per minute;

(vi) the method of loading, such as submerged fill, bottom fill, or splash loading; and

(vii) additional parameters as needed for emissions calculations.

(C) The flare's actual exit velocity for each loading activity shall be calculated every 15 minutes, based on the maximum loading rate and the supplemental fuel rate corrected to standard temperature and pressure and the unobstructed (free) cross-sectional area of the flare tip, according to 40 CFR §60.18(f)(4).

(D) The HRVOC hourly average mass emission rates from the flare shall be calculated, using total HRVOC sent to the flare calculated based on loading emission calculations approved by the commission, and the speciated composition of the material being sent to the flare, assuming a 99% destruction efficiency for ethylene and propylene and a 98% destruction efficiency for all other HRVOCs when the flare meets the heating value and exit velocity requirements of 40 CFR §60.18. During each 15-minute period when the flare does not meet the heating value or exit velocity

requirements of 40 CFR §60.18, a destruction efficiency of 93% shall be assumed to calculate HRVOC mass emission rates.

(2) Temporary portable flares used solely for abatement of emissions from scheduled maintenance or startup or shutdown activities shall satisfy all of the following requirements.

(A) The flare is designed to be and capable of being carried or moved from one location to another by means including, but not limited to, wheels, skids, dolly, trailer, or platform.

(B) The flare shall be located and operated for no more than 14 days at the plant site in any 12 consecutive months.

(C) A calorimeter shall be calibrated, installed, operated, and maintained, in accordance with manufacturer recommendations, to continuously measure and record the net heating value of the gas sent to the flare, in British thermal units per standard cubic foot of the gas.

(D) Records shall be maintained, including, but not limited to:

(i) the date, start time, and end time for each flaring event;

(ii) the flow rate of the gas routed to the flare, in standard cubic feet per minute, calculated based on process knowledge or actual measurement; and

(iii) all supporting supplemental information on which the flow rate calculation was based.

(E) The flare's actual exit velocity for each activity shall be calculated every 15 minutes, based on the calculated flow rate and the supplemental fuel rate corrected to standard temperature and pressure and the unobstructed (free) cross-sectional area of the flare tip, according to 40 CFR §60.18(f)(4).

(f) Modifications to test methods or alternative test methods may be approved by the executive director. Test methods other than those specified in subsections (a) - (c) and (e) of this section may be used if approved by the executive director and validated by 40 CFR Part 63, Appendix A, Test Method 301 (December 29, 1992). For the purposes of this subsection, substitute "executive director" in each place that Test Method 301 references "administrator."

(g) The executive director may waive testing for no more than one-half of the vents that are identical in design and operation if the owner or operator demonstrates that all the vents are identical in design and operation, and the emissions from all of the vents can be expected to be identical.

(1) The request for a waiver shall be submitted with the test plan required under §115.726(a)(2) of this title. Information required to support the waiver request shall include, but is not limited to, the following:

- (A) identification of each vent expected to be identical;
- (B) each specific vent to be tested;
- (C) a detailed technical explanation demonstrating that the measured emissions from the selected vents can be expected to be representative of emissions from all vents;
- (D) specific technical information for each vent and the process associated with each vent demonstrating that the vents and associated processes are identical in design and operation;
- (E) maintenance records for each vent and associated process demonstrating the vents and associated processes have been maintained in a similar manner; and
- (F) any additional information or data requested by the executive director necessary to demonstrate that the emissions from the vents can be expected to be identical.

(2) The executive director shall review the request for waiver and may provide a temporary waiver authorizing testing of no more than one-half of the vents. The results of the tests shall be submitted to the executive director no later than 45 days after the date of written authorization of the temporary waiver. The executive director will determine if any further testing is required based on the review of the test results.

**§115.726. Recordkeeping and Reporting Requirements.**

(a) To satisfy the requirements of §115.725 of this title (relating to Monitoring and Testing Requirements), the owner or operator of each affected flare or vent gas stream shall submit to the executive director for review and approval a test plan for testing and a quality assurance plan (QAP) for the monitoring requirements (including installation, calibration, operation, and maintenance of continuous emissions monitoring systems) of this division (relating to Vent Gas Control) as follows:

(1) for monitoring:

(A) for flares and vent gas streams existing on or before December 31, 2005 , no later than April 30, 2005;

(B) for flares/vent gas streams that become subject to the requirements of this division after December 31, 2005, at least 60 days prior to being placed in highly-reactive volatile organic compound (HRVOC) service; and

(C) the executive director shall issue written approval of, or detail deficiencies and/or direct additional requirements to be added to, each QAP within 180 days of receipt of a QAP that details the owner or operator's plans for installation, calibration, operation, and maintenance of the flare/vent gas stream monitoring. The owner or operator shall submit a corrected QAP within 60 days of the date of the deficiency and/or additional requirements letter. If an approval or detailed deficiency

and/or directed additional requirements letter is not issued within 180 days of receipt by the executive director, then the QAP is approved by default;

(2) for testing:

(A) for flares and vent gas streams existing on or before December 31, 2005 , no later than April 30, 2005;

(B) for flares and vent gas streams that become subject to the requirements of this division after December 31, 2005, at least 60 days prior to being placed in HRVOC service; and

(C) the executive director shall issue written approval of, or detail deficiencies and/or direct additional requirements to be added to, each test plan within 45 days of receipt of a test plan for a vent gas stream to be tested as required by §115.725(a) of this title. The owner or operator shall submit a corrected test plan within 45 days of the date of the deficiency and/or additional requirements letter. If an approval or detailed deficiency and/or directed additional requirements letter is not issued within 45 days of receipt by the executive director, then the test plan is approved by default provided the testing is to be conducted in accordance with the appropriate reference methods and procedures specified in §115.125 of this title (relating to Testing Requirements) without deviation.

(b) The owner or operator shall maintain a record of the results of all testing conducted in accordance with §115.725 of this title.

(c) The owner or operator of a flare at an account that is subject to §115.722 of this title (relating to Site-wide Cap and Control Requirements) or the continuous monitoring requirements of §115.725(d) or (e) of this title shall comply with the following recordkeeping requirements:

(1) maintain hourly records of the speciated and total HRVOC emission rates on a pounds-per-hour basis for each affected flare in order to demonstrate compliance with §115.722 of this title;

(2) maintain records of all monitoring, testing, and calibrations performed in accordance with the provisions of §115.725 of this title;

(3) maintain records on a weekly basis that detail all corrective actions made to the continuous monitoring systems during monitor downtimes, and any delay in corrective action, taken by documenting the dates, reasons, and durations of such occurrences; and

(4) maintain records of each calculated net heating value of the gas stream routed to the flare and each calculated exit velocity at the flare tip, determined in accordance with the provisions of §115.725 of this title.

(d) Records for exemptions shall include the following.

(1) The owner or operator of any account claiming exemption under §115.727(a) of this title (relating to Exemptions) shall maintain records to document that each vent gas stream and each vent routed to a flare does not exceed 100 parts per million by volume HRVOC at any time.

(2) The owner or operator of any flare claiming exemption under §115.727(b) of this title shall maintain records which document that the HRVOC content of the gas stream that is routed to the flare does not exceed 5.0% by weight at any time.

(3) The owner or operator of any vent gas stream or flare claiming exemption under §115.727 of this title shall comply with the following recordkeeping requirements:

(A) for vent gas streams, maintain records which demonstrate continuous compliance with the exemption criteria of §115.727(e) of this title; or

(B) for flares, maintain records which demonstrate continuous compliance with the exemption criteria of §115.727(f) of this title.

(e) The owner or operator of each account subject to §115.722 of this title shall maintain records that update hourly the 24-hour rolling average HRVOC emissions which include:

(1) cooling tower emissions from cooling towers which are subject to Division 2 of this subchapter (relating to Cooling Tower Heat Exchange Systems);

(2) all continuously monitored vent gas and flare emissions; and

(3) the maximum potential emission rate from vent gas streams and flares which are not continuously monitored.

(f) The owner or operator shall maintain all records required in this division and other records as necessary to demonstrate continuous compliance and records of periodic measurements for at least five years and make them available for review upon request by authorized representatives of the executive director, EPA, or any local air pollution control agency with jurisdiction.

**§115.727. Exemptions.**

(a) Any account for which all individual gas streams routed to a flare contain less than 5.0% by weight of highly-reactive volatile organic compounds (HRVOC) at all times and all individual vent gas streams not routed to a flare contain less than 100 parts per million by volume (ppmv) HRVOC at all times is exempt from the requirements of §115.722(a) of this title (relating to Site-wide Cap and Control Requirements).

(b) For a flare that at no time receives a gas stream containing 5.0% or greater HRVOC:

(1) the gas stream directed to the flare shall be treated as a vent gas stream for purposes of determining compliance with the site-wide cap of §115.722(a) of this title; and

(2) the flare is exempt from the continuous monitoring requirements of §115.725(d) and (e) of this title (relating to Monitoring and Testing Requirements) and §115.726(c) of this title and is therefore not required to submit a quality assurance plan under §115.726(a) of this title.

(c) Emissions from scheduled maintenance, startup, or shutdown activities in compliance with §101.211 of this title (relating to Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements) are exempt from the requirements of §115.722(a) of this title.

(d) Emissions from emissions events in compliance with §101.201 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements) are exempt from the requirements of §115.722(a) of this title.

(e) The following vent gas stream exemptions apply.

(1) A vent gas stream that has no potential to emit HRVOC is exempt from the requirements of this division, with the exception of the recordkeeping requirements of §115.726(d)(3) of this title.

(2) A vent gas stream that has the potential to emit HRVOC, but that has an HRVOC concentration less than 100 ppmv at all times, excluding emissions events, is exempt from this division with the exception of the recordkeeping requirements of §115.726(d)(3) of this title, provided that the maximum potential HRVOC emissions for the sum of all vent gas streams claimed under this

exemption, in pounds per hour, is less than 5.0% of the HRVOC cap for the account specified in §115.722(a) of this title.

(3) Vent gas streams from the following sources are exempt from the requirements of this division with the exception of the recordkeeping requirements of §115.726(d)(3) of this title:

(A) vent gas streams resulting from the combustion of less than 5.0% HRVOC in boilers, furnaces, engines, turbines, and heaters;

(B) pressure tanks which maintain working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere;

(C) laboratory vent hoods;

(D) instrumentation air systems;

(E) atmospheric storage tanks;

(F) wastewater system vents;

(G) cooling towers; and

(H) equipment leak fugitive components, except for vents from pressure relief valves occurring when the process pressure is sufficient to overcome the preset pressure relief point of the pressure relief valve and emissions are either released directly to the atmosphere or routed to a control device.

(f) Any flare that at no time receives a total gas stream with greater than 100 ppmv HRVOC is exempt from the requirements of this division, with the exception of the recordkeeping requirements of §115.726(d)(3) of this title.

**§115.729. Counties and Compliance Schedules.**

Each owner or operator in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties shall demonstrate compliance with the requirements of this division (relating to Vent Gas Control) in accordance with the following schedule.

(1) Vent gas.

(A) The testing required by §115.725 of this title (relating to Monitoring and Testing Requirements) shall be completed and the results submitted to the appropriate regional office and any local air pollution control agency with jurisdiction as soon as practicable, but no later than December 31, 2005.

(B) The owner or operator shall demonstrate compliance with all other requirements of this division applicable to vent gas streams as soon as practicable, but no later than April 1, 2006.

(2) Flares. The owner or operator of each flare shall demonstrate compliance with all sections of this division as soon as practicable, but no later than December 31, 2005, with the exception of the site-wide cap in §115.722 of this title (relating to Site-wide Cap and Control Requirements) for which the owner or operator shall demonstrate compliance as soon as practicable, but no later than April 1, 2006.

**SUBCHAPTER H: HIGHLY-REACTIVE VOLATILE ORGANIC COMPOUNDS**

**DIVISION 2: COOLING TOWER HEAT EXCHANGE SYSTEMS**

**§115.764, §115.767**

**STATUTORY AUTHORITY**

The amendments are adopted under Texas Water Code, §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 Texas Water Code; and under Texas Health and Safety Code, §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amendments are also adopted under Texas Health and Safety Code, §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; §382.012, concerning State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, which authorizes the commission to require persons whose activities cause air contaminant emissions to submit information regarding emissions of air contaminants; and §382.016, concerning Monitoring Requirements: Examination of Records, which authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants.

**§115.764. Monitoring Requirements.**

(a) The owner or operator of a cooling tower heat exchange system with greater than 100 parts per million by weight (ppmw) of highly-reactive volatile organic compounds (HRVOC) in the process side fluid and a design capacity to circulate 8,000 gallons per minute (gpm) or greater of cooling water shall:

(1) install, calibrate, operate, and maintain a continuous flow monitor on each inlet of each cooling tower. Each monitor shall be calibrated on an annual basis to within  $\pm 5.0\%$  accuracy. When the cooling tower flow monitor is down, flow measurements shall be used for the most recent 24-hour period in which the flow measurements are representative of cooling tower operations during monitor downtime;

(2) install, calibrate, operate, and maintain a system to continuously determine the total strippable volatile organic compound (VOC) concentration at each inlet of each cooling tower. During out-of-order periods of the VOC monitor(s), a sample shall be collected for total VOC analysis according to the Texas Commission on Environmental Quality (commission) air-stripping method (Appendix P, Sampling Procedures Manual, January 2003). This sample shall be collected at least three times per calendar week, with an interval of no less than 36 hours between samples;

(3) continuously operate each monitoring system as required by this section at least 95% of the time when the cooling tower is operational, averaged over a calendar year;

(4) determine the speciated strippable HRVOC concentration by collecting samples from each inlet of each cooling tower at least once per month in accordance with appropriate methods in §115.766 of this title (relating to Testing Requirements);

(5) if the concentration of total strippable VOC is equal to or greater than 50 parts per billion by weight (ppbw) in the cooling tower water for more than a one-hour block of time, collect an additional sample to determine speciated and total HRVOC in accordance with §115.766 of this title from each inlet of the affected cooling tower at least once daily. The additional sampling to determine speciated and total HRVOC shall continue on a daily basis until the concentration of total strippable VOC drops below 50 ppbw; and

(6) in lieu of the monitoring in paragraph (2) of this subsection and the sampling for speciation of strippable VOC in paragraphs (4) and (5) of this subsection, a continuous on-line monitor capable of providing total HRVOC and speciated HRVOCs in ppbw may be installed. The continuous on-line monitor system must satisfy the requirements of Subsections 8.2 and 8.3, Section 10, and Subsections 13.1 and 13.2 of 40 Code of Federal Regulations (CFR) Part 60, Appendix B, Performance Specification 9, as amended through October 17, 2000 (65 FR 61744). During out-of-order periods of the on-line HRVOC monitor(s), a sample shall be collected for total and speciated HRVOC analysis according to the air-stripping method in the commission's Sampling Procedures Manual, Appendix P. This sample shall be collected at least three times per calendar week, with an interval of no less than 36 hours between samples.

(b) The owner or operator of a cooling tower heat exchange system with greater than 100 ppmw of HRVOC in the process side fluid and a design capacity to circulate less than 8,000 gpm of cooling water shall:

(1) install, calibrate, operate, and maintain a continuous flow monitor on each inlet of each cooling tower. Each monitor shall be calibrated on an annual basis to within  $\pm 5.0\%$  accuracy. When the cooling tower flow monitor is down, flow measurements shall be used for the most recent 24-hour period in which the flow measurements are representative of cooling tower operations during monitor downtime;

(2) determine the total strippable VOC concentration by collecting samples from each inlet of each cooling tower at least twice per week in accordance with appropriate methods in §115.766 of this title, with an interval of not less than 48 hours between samples;

(3) each monitoring system shall be operated as required by this section at least 95% of the time when the cooling tower is operational, averaged over a calendar year;

(4) determine the speciated strippable HRVOC concentration by collecting samples from each inlet of each cooling tower at least once per month in accordance with appropriate methods in §115.766 of this title;

(5) if the calculated total strippable VOC concentration is equal to or greater than 50 ppbw in the cooling tower water, collect additional samples to determine total strippable VOC, speciated HRVOC, and total HRVOC, in accordance with §115.766 of this title from each inlet of the affected cooling tower at least once daily. The additional sampling to determine total strippable VOC, speciated HRVOC, and total HRVOC shall continue until the concentration of total strippable VOC drops below 50 ppbw; and

(6) in lieu of the monitoring in paragraph (2) of this subsection and the sampling for speciation of strippable VOC in paragraphs (4) and (5) of this subsection, a continuous on-line monitor capable of providing total HRVOC and speciated HRVOCs in ppbw may be installed. The continuous on-line monitor system must satisfy the requirements of Subsections 8.2 and 8.3, Section 10, and Subsections 13.1 and 13.2 of 40 CFR Part 60, Appendix B, Performance Specification 9. During out-of-order periods of the on-line HRVOC monitor(s), a sample shall be collected for total and speciated HRVOC analysis according to the air-stripping method in the commission's Sampling Procedures Manual, Appendix P. This sample shall be collected at least twice per calendar week, with an interval of no less than 72 hours between samples.

(c) The owner or operator of the cooling tower heat exchange system shall determine the speciated HRVOC concentration as soon as this information is available, but no later than seven days after the sample(s) have been collected. Samples collected in a Tedlar™ bag must be analyzed no later than 72 hours after the samples have been collected.

(d) The owner or operator of an affected cooling tower heat exchange system shall submit for review and approval by the executive director a quality assurance plan (QAP) for the installation, calibration, operation, and maintenance for the monitoring equipment required by this division as follows:

(1) for cooling towers existing on or before December 31, 2005, no later than April 30, 2005;

(2) for cooling tower heat exchange systems that become subject to the requirements of this division after December 31, 2005, at least 60 days prior to being placed in service. This plan shall be submitted prior to initiating a monitoring program to comply with the requirements of subsections (a) and (b) of this section. Additionally, the plan must define each compound which could potentially leak through the heat exchanger and therefore directly impact the emissions of the cooling water system; and

(3) the executive director shall issue written approval of, or detail deficiencies and/or direct additional requirements to be added to, each QAP within 180 days of receipt of a complete QAP that details the owner or operator's plans for installation, calibration, operation, and maintenance of the cooling tower heat exchange system monitoring. The owner or operator shall submit a corrected QAP within 60 days of the date of the deficiency and/or additional requirements letter. If an approval or detailed deficiency and/or directed additional requirements letter is not issued within 180 days of receipt by the executive director, then the QAP is approved by default.

(e) In lieu of subsections (a)(2) - (5) and (b)(2) - (5) of this section, the owner or operator of cooling tower heat exchange systems in which no individual heat exchanger has 5.0% or greater HRVOC in the process-side fluid, shall determine total strippable VOC and the HRVOC concentration in the cooling tower water at least once per month, with an interval of not less than 20 days between samples, in accordance with appropriate methods in §115.766 of this title. If the total strippable VOC concentration in the cooling tower water is 50 ppbw or greater, the owner or operator shall determine the total strippable VOC weekly and the HRVOC concentration weekly. The additional sampling for the total strippable VOC concentration and HRVOC concentration shall continue until the total strippable VOC concentration drops below 50 ppbw.

(f) In lieu of using a continuous flow monitor as described in subsections (a)(1) and (b)(1) of this section, the owner or operator of cooling tower heat exchange systems may:

(1) use the maximum potential flow rate based on manufacturer's pump performance data, assuming no back pressure; or

(2) install, calibrate, operate, and maintain, in accordance with the manufacturer's recommendations, a monitor to continuously measure and record each cooling water pump discharge pressure to establish the total dynamic head of the cooling water system. The owner or operator of the cooling water system must establish, use, and demonstrate in the QAP required in subsection (d) of this section, a calculation methodology which will provide, on a continuous basis, the cooling water circulation flow rate (in gpm) based on the following: cooling water discharge pressure for each pump;

the manufacturer's certified pump performance data; and the number of pumps in operation. This calculated flow rate will then be used to determine the hourly emission rate in pounds per hour, as required by §115.767(a)(3) of this title (relating to Recordkeeping Requirements).

(g) Minor modifications to these monitoring methods may be approved by the executive director. Monitoring methods other than those specified in subsections (a), (b), (e), and (f) of this section may be used if approved by the executive director and validated by 40 CFR Part 63, Appendix A, Test Method 301 (December 29, 1992). For the purposes of this subsection, substitute “executive director” in each place that Test Method 301 references “administrator.”

**§115.767. Recordkeeping Requirements.**

(a) The owner or operator of any cooling tower heat exchange system subject to §115.761 of this title (relating to Site-wide Cap) shall comply with the following recordkeeping requirements:

(1) establish and maintain a process diagram of the cooling tower heat exchange system, including the locations at which the system will be monitored and sampled such that the cooling water is not exposed to the atmosphere prior to sampling;

(2) maintain records of all monitoring, testing, and calibrations performed in accordance with the provisions of §115.764 and §115.766 of this title (relating to Monitoring Requirements; and Testing Requirements);

(3) maintain hourly records that document the emission rate in pounds per hour (lb/hr) for each hour for total strippable volatile organic compounds (VOC), speciated highly-reactive volatile organic compounds (HRVOC), and total HRVOC from the cooling water for each cooling tower heat exchange system as required by §115.764(a) and (b) of this title. The flow rate of the cooling water in conjunction with the most recently monitored concentration of the total strippable VOC, speciated HRVOC, or total HRVOC in the cooling tower water, shall be used to calculate the respective emission rate in lb/hr. If the results of the total strippable VOC, speciated HRVOC, or total HRVOC analyses are below the minimum detection limit (i.e., non-detected), then the full detection limit(s) shall be used to calculate total strippable VOC and HRVOC emissions.

(4) maintain hourly records on a weekly basis that detail all corrective actions and any delay in corrective action taken by documenting the dates, reasons, and durations of such occurrences and the estimated quantity of all HRVOC emissions during such activities;

(5) update hourly the 24-hour rolling average HRVOC emissions, including:

(A) vent gas and flare emissions which are subject to Division 1 of this subchapter (relating to Vent Gas Control); and

(B) the hourly emissions determined in paragraph (3) of this subsection; and

(6) in lieu of the recordkeeping requirements in paragraph (3) of this subsection, maintain hourly records that document the emission rate in lb/hr for speciated HRVOC and total HRVOC from the cooling water for each cooling tower heat exchange system as required by §115.764(a)(6) and (b)(6) of this title. The flow rate of the cooling water in conjunction with the monitored concentration of the speciated HRVOC or total HRVOC shall be used to calculate the respective emission rate in pounds per hour. If the results of the speciated or total HRVOC analyses are below the minimum detection limit (i.e., non-detected), then the full detection limit(s) shall be used to calculate HRVOC emissions.

(b) The owner or operator of any cooling tower heat exchange system claiming exemption under §115.768 of this title (relating to Exemptions) shall comply with the following recordkeeping requirements:

(1) maintain records of the heat exchanger pressure differential to document continuous compliance with the exemption criteria of §115.768(1) of this title; or

(2) maintain records of the content of the process side fluid in each heat exchanger to demonstrate continuous compliance with the exemption criteria of §115.768(2) of this title.

(c) The owner or operator shall maintain all records necessary to demonstrate continuous compliance and records of periodic measurements for at least five years and make them available for

review upon request by authorized representatives of the executive director, EPA, or any local air pollution control agency with jurisdiction.

(d) The owner or operator of any cooling tower heat exchange system using the alternate periodic monitoring available under §115.764(e) of this title shall comply with the following recordkeeping requirements:

(1) maintain records sufficient to demonstrate that no individual heat exchanger has 5.0% or greater HRVOC in the process-side fluid; and

(2) maintain records of the sampling and calculations used to determine the total strippable VOC and the HRVOC concentration in the cooling tower water;

(e) The owner or operator of any cooling tower heat exchange system using manufacturer's pump performance data to determine the maximum potential flow rate, as specified in §115.764(f) of this title, shall maintain the following records for each pump:

(1) the manufacturer's certified pump performance test;

(2) the operating status of each pump;

(3) the motor manufacturer, model number, and rated brake horsepower;

(4) the impeller manufacturer, model number, size, and design;

(5) any change to a cooling tower heat exchange system pump or pumping system in which the change would modify the basis for design pumping capacity; and

(6) the effect of any change on the maximum potential flow rate.

(f) The owner or operator of any cooling tower heat exchange system using a system to monitor cooling water pump discharge pressure to determine the continuous flow rate for each cooling tower, as specified in §115.764(f)(2) of this title, shall maintain the following records for each pump:

(1) the continuous measurement of cooling water pump discharge pressure;

(2) the manufacturer's certified pump performance test;

(3) the operating status of each pump;

(4) the motor manufacturer, model number, and rated brake horsepower;

(5) the impeller manufacturer, model number, size, and design;

(6) any change to a cooling tower heat exchange system pump or pumping system in which the change would modify the basis for design pumping capacity; and

(7) the effect of any change on the maximum potential flow rate.

**SUBCHAPTER H: HIGHLY-REACTIVE VOLATILE ORGANIC COMPOUNDS**

**DIVISION 3: FUGITIVE EMISSIONS**

**§§115.781, 115.783, 115.785, 115.787, 115.789**

**STATUTORY AUTHORITY**

The amendments are adopted under Texas Water Code, §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 Texas Water Code; and under Texas Health and Safety Code, §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amendments are also adopted under Texas Health and Safety Code, §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; §382.012, concerning State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, which authorizes the commission to require persons whose activities cause air contaminant emissions to submit information regarding emissions of air contaminants; and §382.016, concerning Monitoring Requirements: Examination of Records, which authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants.

**§115.781. General Monitoring and Inspection Requirements.**

(a) The owner or operator shall identify the components of each process unit in highly-reactive volatile organic compound (HRVOC) service which is subject to this division (relating to Fugitive Emissions). Such identification must allow for ready identification of the components, and distinction from any components which are not subject to this division. The components must be identified by one or more of the following methods:

(1) a plant site plan;

(2) color coding;

(3) a written or electronic database;

(4) designation of process unit boundaries;

(5) some form of weatherproof identification; or

(6) process flow diagrams that exhibit sufficient detail to identify major pieces of equipment, including major process flows to, from, and within a process unit. Major equipment includes, but is not limited to, columns, reactors, pumps, compressors, drums, tanks, and exchangers.

(b) Each component in the process unit must be monitored according to the requirements of Subchapter D, Division 3 of this chapter (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas), except that the following additional requirements apply.

(1) The exemptions of §115.357(1) - (9) of this title (relating to Exemptions) do not apply.

(2) The leak-skip provisions of §115.354(7) and (8) of this title (relating to Inspection Requirements) do not apply.

(3) The emissions from blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC; connectors; heat exchanger heads; sight glasses; meters; gauges; sampling connections; bolted manways; hatches; agitators; sump covers; junction box vents; covers and seals on volatile organic compound (VOC) water separators; and process drains shall be monitored each calendar quarter (with a hydrocarbon gas analyzer).

(4) All components for which a repair attempt was made during a shutdown shall be monitored (with a hydrocarbon gas analyzer) and inspected for leaks within 30 days after startup is completed following the shutdown.

(5) All process drains equipped with water seal controls, as defined in §115.140 of this title (relating to Industrial Wastewater Definitions), shall be inspected weekly to ensure that the water seal controls are effective in preventing ventilation, except that daily inspections are required for those seals that have failed three or more inspections in any 12-month period. Upon request by the executive director, EPA, or any local program with jurisdiction, the owner or operator shall demonstrate (e.g., by visual inspection or smoke test) that the water seal controls are properly designed and restrict ventilation.

(6) All process drains not equipped with water seal controls shall be inspected monthly to ensure that all gaskets, caps, and/or plugs are in place and that there are no gaps, cracks, or other holes in the gaskets, caps, and/or plugs. In addition, all caps and plugs shall be inspected monthly to ensure that they are tightly-fitting.

(7) An unsafe-to-monitor or difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored as follows.

(A) An unsafe-to-monitor component is a component that the owner or operator determines is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of conducting quarterly monitoring. Components which are unsafe to monitor shall be identified in a list made available upon request. If an unsafe-to-monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe-to-monitor times.

(B) A difficult-to-monitor component is a component that cannot be inspected without elevating the monitoring personnel more than two meters above a permanent support surface. A difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored annually.

(8) All pressure relief valves in gaseous service which are not vented to a closed-vent system shall be monitored each calendar quarter (with a hydrocarbon gas analyzer).

(9) A leak is defined as a screening concentration greater than 500 parts per million by volume above background as methane for all components.

(10) Monitored screening concentrations must be recorded for each component in gaseous or light liquid service. Notations such as “pegged,” “off scale,” “leaking,” “not leaking,” or “below leak definition” may not be substituted for hydrocarbon gas analyzer results. For readings that are higher than the upper end of the scale (i.e., pegged) even when using the highest scale setting or a dilution probe, record a default pegged value of 100,000 parts per million by volume.

(c) Pumps, compressors, and agitators must be:

- (1) inspected visually each calendar week for liquid dripping from the seals; or
- (2) equipped with an alarm that alerts the operator of a leak.

(d) If securing the bypass line valve in the closed position to comply with §115.783(1)(B) of this title (relating to Equipment Standards), the seal or closure mechanism must be visually inspected to ensure the valve is maintained in the closed position and the vent stream is not diverted through the bypass line:

(1) on a monthly basis; and

(2) after any maintenance activity that requires the seal to be broken.

(e) Any pressure relief device which has vented to the atmosphere shall be monitored (with a hydrocarbon gas analyzer) and inspected within 24 hours after actuation and the results reported in accordance with §115.786 of this title (relating to Recordkeeping Requirements).

(f) As an alternative to the requirements of subsection (b)(3) of this section for blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers, the owner or operator may elect to monitor all of these components in a process unit by April 1, 2006 and then conduct subsequent monitoring at the following frequencies:

(1) once per year (i.e., 12-month period), if the percent leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted

manways, heat exchanger heads, hatches, and sump covers in the process unit was 0.5% or greater, but less than 2.0%, during the last required annual or biennial monitoring period;

(2) once every two years, if the percent leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers was less than 0.5% during the last required monitoring period. An owner or operator may comply with this paragraph by monitoring at least 40% of the components in the first year and the remainder of the components in the second year. The percent leaking connectors, bolted manways, heat exchanger heads, hatches, and sump covers will be calculated for the total of all monitoring performed during the two-year period;

(3) if the owner or operator of a process unit in a biennial leak detection and repair program calculates less than 0.5% leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers from the two-year monitoring period, the owner or operator may monitor the components one time every four years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 20% of the components each year until all connectors, bolted manways, heat exchanger heads, hatches, and sump covers have been monitored within four years;

(4) if a process unit complying with the requirements of paragraph (3) of this subsection using a four-year monitoring interval program has greater than or equal to 0.5% but less than 1.0% leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight

glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers, the owner or operator shall increase the monitoring frequency to one time every two years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40% of the components in the first year and the remainder of the components in the second year. The owner or operator may again elect to use the provisions of paragraph (3) of this subsection when the percent leaking components decreases to less than 0.5%;

(5) if a process unit complying with requirements of paragraph (3) of this subsection using a four-year monitoring interval program has greater than or equal to 1.0% but less than 2.0% leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of paragraph (3) of this subsection when the percent leaking components decreases to less than 0.5%; and

(6) if a process unit complying with requirements of paragraph (3) of this subsection using a four-year monitoring interval program has 2.0% or greater leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers, the owner or operator shall increase the monitoring frequency to quarterly. The owner or operator may again elect to use the provisions of paragraph (3) of this subsection when the percent leaking components decreases to less than 0.5%.

**§115.783. Equipment Standards.**

The following equipment standards shall apply.

(1) Closed-vent systems containing bypass lines (excluding low-leg drains, high-point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes) that could divert a vent stream away from the control device and to the atmosphere, must have either:

(A) a flow indicator that determines whether vent stream flow is present in the bypass line at least once every 15 minutes; or

(B) the bypass line valve secured in the closed position with a car-seal or a lock-and-key type configuration.

(2) Whenever highly-reactive volatile organic compound (HRVOC) emissions are vented to a closed-vent system, control device, or recovery device used to comply with the provisions of this chapter, such system or control device must be operating properly.

(A) Recovery devices (e.g., condensers and absorbers) used to comply with this paragraph must be designed and operated to recover the HRVOC emissions vented to them with an efficiency of 95% or greater.

(B) Flares used to comply with this paragraph must meet the requirements of:

(i) Division 1 of this subchapter (relating to Vent Gas Control); and

(ii) 40 Code of Federal Regulations §60.18(b) or §63.11(b).

(C) All other control devices used to comply with this paragraph must reduce HRVOC emissions with a control efficiency of at least 98% or to an HRVOC concentration of no more than 20 parts per million by volume (on a dry basis corrected to 3.0% oxygen for combustion devices).

(3) Each pressure relief valve in gaseous HRVOC service that vents to atmosphere which is installed in series with a rupture disk, pin, second relief valve, or other similar leak-tight pressure relief component, shall be equipped with a pressure sensing device or an equivalent device or system between the pressure relief valve and the other pressure relief component to monitor for leakage past the first component. When leakage is detected past the first component, that component shall be repaired or replaced as soon as practicable, but no later than 30 calendar days after the failure is detected. As an alternative, the owner or operator may repair or replace that component at the next planned process unit shutdown, but the emissions are considered to be vent gas emissions and are subject to the site-wide cap in §115.722 of this title (relating to Site-wide Cap and Control Requirements).

(4) Pumps, compressors, and agitators installed on or after July 1, 2003 shall be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal.

(A) Acceptable shaft sealing systems include:

(i) seals equipped with piping capable of transporting any leakage from the seal(s) back to the process;

(ii) seals with a closed-vent system capable of transporting to a control device any leakage from the seal or seals;

(iii) dual seals with a heavy liquid or non-VOC barrier fluid or gas at higher pressure than process pressure; and

(iv) seals with an automatic seal failure detection and alarm system.

(B) The executive director may approve shaft sealing systems different from those specified in subparagraph (A) of this paragraph. The executive director:

(i) shall consider on a case-by-case basis the technological circumstances of the individual pump, compressor, or agitator; and

(ii) must determine that the alternative shaft sealing system will result in the lowest emissions level that the pump, compressor, or agitator is capable of meeting after the application of best available control technology before approving the alternative shaft sealing system.

(C) Any owner or operator affected by the executive director's decision to deny a request for approval of an alternative shaft sealing system may file a motion to overturn the executive director's decision. The requirements of §50.139 of this title (relating to Motion to Overturn Executive Director's Decision) apply. Executive director approval does not necessarily constitute satisfaction of all federal requirements nor eliminate the need for approval by EPA in cases where specified criteria for determining equivalency have not been clearly identified in this section.

(5) The following equipment standards shall apply to process drains.

(A) If water seal controls, as defined in §115.140 (relating to Industrial Wastewater Definitions), are used:

(i) the only acceptable alternative to water as the sealing liquid in a water seal is the use of ethylene glycol, propylene glycol, or other low vapor pressure antifreeze, which may be used only during the period of November through February; and

(ii) as an alternative to the weekly water seal inspections of §115.781(b)(5) of this title (relating to General Monitoring and Inspection Requirements), the owner or operator may choose to equip the process drain with:

(I) an alarm that alerts the operator if the water level in the vertical leg of the drain falls below 50% of the maximum level, and a device that continuously records the status of the water level alarm, including the time period for which the alarm has been activated; or

(II) a flow-monitoring device indicating either positive flow from a main to a branch water line supplying a trap or water being continuously dripped into the trap; and a device that continuously records the status of water flow into the trap.

(B) For process drains not equipped with water seal controls, the process drain shall be equipped with:

(i) a gasketed seal; or

(ii) a tightly-fitting cap or plug.

(6) No valves shall be installed or operated at the end of a pipe or line containing HRVOC unless the pipe or line is sealed with a second valve, a blind flange, or a tightly-fitting plug or

cap. The sealing device may be removed only while a sample is being taken or during maintenance operations, and when closing the line, the upstream valve shall be closed first.

**§115.785. Testing Requirements.**

The owner or operator shall perform testing to demonstrate compliance with §115.783(2) of this title (relating to Equipment Standards) using the test methods specified in §115.125 of this title (relating to Testing Requirements). The owner or operator is responsible for providing testing facilities and conducting the sampling and testing operations at its expense. Flares which are in compliance with §115.722(b) and §115.725 of this title (relating to Site-wide Cap and Control Requirements; and Monitoring and Testing Requirements) are exempt from the testing requirements of this division. Boilers or process heaters either with a design heat input capacity equal to or greater than 150 million British thermal units per hour (44 megawatts), or where the highly-reactive volatile organic compound (HRVOC) emission stream is introduced into the boiler or process heater with the primary fuel or as the primary fuel are exempt from the testing requirements of this division.

(1) The appropriate regional office shall be contacted as soon as testing is scheduled, but not less than 45 days prior to testing to schedule a pretest meeting. The notice shall include:

(A) the date for pretest meeting;

(B) the date the testing will occur;

(C) the name of the firm conducting testing;

(D) the type of testing equipment to be used; and

(E) the method or procedure to be used in testing.

(2) The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

(3) A written proposed description of any minor test method modifications allowed under §115.125(4) of this title shall be made available to the regional office before the pretest meeting. The executive director will approve or disapprove of any deviation from specified sampling procedures.

(4) Performance tests shall be conducted under such conditions as the executive director specifies to the owner or operator which establish maximum potential HRVOC hourly emissions data expected during any operation not defined as an emissions event or a scheduled maintenance, startup, or shutdown activity under §101.1 of this title (relating to Definitions).

(5) Testing using the appropriate reference methods and procedures specified in §115.125 of this title which was conducted before approval of the test plan required under §115.726 of this title (relating to Recordkeeping and Reporting Requirements) and which establishes maximum

potential HRVOC hourly emissions data expected during any operation not defined as an emissions event or a scheduled maintenance, startup, or shutdown activity under §101.1 of this title may be used to demonstrate compliance with the standards specified in this division (relating to Fugitive Emissions), provided that the owner or operator of the affected source obtains approval for the testing report and data from the executive director. For testing conducted before approval of the test plan, the compliance stack test report required by paragraph (6) of this section shall be as complete as necessary to demonstrate to the executive director that the stack test was valid and the source has complied with the rule. The executive director reserves the right to request compliance testing or monitoring system performance evaluation at any time.

(6) The owner or operator shall furnish the Office of Compliance and Enforcement, the appropriate regional office, and any local air pollution control agency having jurisdiction a copy of the final sampling report within 60 days after sampling is completed.

**§115.787. Exemptions.**

(a) Components that contact a process fluid that contains less than 5.0% highly-reactive volatile organic compounds by weight on an annual average basis are exempt from the requirements of this division (relating to Fugitive Emissions), except for §115.786(d) and (e) of this title (relating to Recordkeeping Requirements).

(b) The following are exempt from the shaft sealing system requirements of §115.783(4) of this title (relating to Equipment Standards):

(1) submerged pumps or sealless pumps (e.g., diaphragm, canned, or magnetic-driven pumps); and

(2) pumps, compressors, and agitators installed before July 1, 2003.

(c) The following components are exempt from the requirements of this division:

(1) conservation vents or other devices on atmospheric storage tanks that are actuated either by a vacuum or a pressure of no more than 2.5 pounds per square inch, gauge (psig);

(2) components in continuous vacuum service;

(3) valves that are not externally regulated (such as in-line check valves);

(4) plant sites covered by a single account number with less than 250 components in volatile organic compounds (VOC) service;

(5) components which are insulated, making them inaccessible to monitoring with an hydrocarbon gas analyzer;

(6) sampling connection systems, as defined in 40 Code of Federal Regulations (CFR) §63.161 (January 17, 1997), which are in compliance with 40 CFR §63.166(a) and (b) (June 20, 1996);  
and

(7) instrumentation systems, as defined in 40 CFR §63.161 (January 17, 1997), which are in compliance with 40 CFR §63.169 (June 20, 1996).

(d) All pumps, compressors, and agitators that are equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal are exempt from the monitoring requirement of §115.781(b) and (c) of this title (relating to General Monitoring and Inspection Requirements). These seal systems may include, but are not limited to, dual seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic driven pumps) may be used to satisfy the requirements of this subsection.

(e) Each pressure relief valve equipped with a rupture disk is exempt from the requirements of §115.781(b)(8) of this title, provided that the pressure relief valve complies with §115.783(3) of this title.

(f) The following valves are exempt from the requirements of §115.352(4) of this title:

- (1) pressure relief valves;
- (2) open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of an emissions event;
- (3) open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system; and
- (4) valves rated greater than 10,000 psig.

**§115.789. Counties and Compliance Schedules.**

The owner or operator of each petroleum refinery; synthetic organic chemical, polymer, resin, or methyl tert-butyl ether manufacturing process; or natural gas/gasoline processing operation in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties shall demonstrate compliance with the requirements of this division (relating to Fugitive Emissions) in accordance with the following schedule.

- (1) The initial monitoring of all components for which monitoring is required under this division, but which are not required to be monitored under Subchapter D, Division 3 of this chapter (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and

Petrochemical Processes in Ozone Nonattainment Areas), shall occur as soon as practicable, but no later than March 31, 2004, except that:

(A) the schedule in §115.781(f) of this title (relating to General Monitoring and Inspection Requirements) shall apply to blind flanges, caps, or plugs at the end of a pipe or line containing highly-reactive volatile organic compounds, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers for which the owner or operator has notified the appropriate regional office and any local air pollution control program with jurisdiction that §115.781(f) of this title will be used to establish the monitoring schedule for these components ; and

(B) on or before March 31, 2004, the owner or operator shall notify the appropriate regional office and any local air pollution control program with jurisdiction that §115.781(f) of this title will be used to establish the monitoring schedule for blind flanges, caps, or plugs at the end of a pipe or line containing highly-reactive volatile organic compounds, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers. The owner or operator shall monitor all of these components at least one time in each process unit by April 1, 2006, and then conduct subsequent monitoring at the frequencies noted in §115.781(f) of this title. For those process units with an initial start-up date after March 31, 2004, the notification of the intent to use §115.781(f) of this title shall be made within 60 days after the initial start-up date. In this case, the owner or operator shall monitor all of these components at least one time in each process unit within one year of the initial start-up date, and then conduct subsequent monitoring at the frequencies noted in §115.781(f) of this title.

(2) All equipment upgrades required by §115.783 of this title (relating to Equipment Standards) must be made as soon as practicable, but no later than March 31, 2004, except that flares used to comply with the requirements of §115.783(2)(B) of this title shall be in compliance in accordance with §115.729(2) of this title (relating to Counties and Compliance Schedules).

(3) The initial independent third-party audit required by §115.788 of this title (relating to Audit Provisions) shall be completed and the results of the audit submitted to the executive director for at least 50% of the process units or processes at an account as soon as practicable, but no later than December 31, 2004. The remainder of the process units or processes at the account that are subject to §115.788 of this title shall be audited as soon as practicable, but no later than December 31, 2005.

(4) The testing required by §115.785 of this title (relating to Testing Requirements) shall be conducted as soon as practicable, but no later than December 31, 2005.

(5) Compliance with the recordkeeping required by §115.786 of this title (relating to Recordkeeping Requirements) shall be implemented and made available upon request to authorized representatives of the executive director, EPA, or any local air pollution control agency having jurisdiction as soon as practicable, but no later than March 31, 2004.

(6) The initial monitoring of pump seals and compressor seals using a leak definition of 500 parts per million by volume, as required by §115.781(b)(9) of this title, shall begin as soon as practicable, but no later than March 31, 2004.

