The Texas Commission on Environmental Quality (commission) adopts the amendments to §§115.10, 115.720, 115.722, 115.725 - 115.727, 115.729, 115.760, 115.761, 115.764, 115.769, 115.780 - 115.783, and 115.786 - 115.789. The commission also adopts the repeal of §§115.766 - 115.768 and 115.785, and adopts new §115.766 and §115.767. The amendments to §§115.10, 115.720, 115.722, 115.725 - 115.727, 115.729, 115.760, 115.761, 115.764, 115.769, 115.780 - 115.783, and 115.786 - 115.789; and new 115.766 and 115.767 are adopted *with changes* to the proposed text as published in the July 9, 2004, issue of the *Texas Register* (29 TexReg 6534). Repealed §§115.766 - 115.768 and §115.785 are adopted *without changes* to the proposed text and will not be republished.

The amended, repealed, and new sections will be submitted to the United States Environmental Protection Agency (EPA) as revisions to the state implementation plan (SIP).

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

The Houston/Galveston/Brazoria (HGB) ozone nonattainment area is classified as Severe-17 under the Federal Clean Air Act Amendments of 1990 (FCAA) as codified in 42 United States Code (USC), §§7401 *et seq.*, and therefore, is required to attain the national ambient air quality standard (NAAQS) one-hour standard for ozone of 0.12 parts per million (ppm) (125 parts per billion (ppb)) by November 15, 2007. The HGB area consists of Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties, and the commission has been working to develop a demonstration of attainment in accordance with 42 USC, §7410. The most relevant HGB SIP revisions to date are the December 2000 one-hour ozone standard attainment demonstration, the September 2001 follow-up

revision, and the December 2002 nitrogen oxides (NO_x)/highly-reactive volatile organic compound (HRVOC) revision.

This process has proven to be challenging due to the magnitude of reductions needed for attainment. The emission reduction requirements included as part of the December 2000 SIP revision represent substantial, intensive efforts on the part of stakeholder coalitions in the HGB area, in partnership with the commission, to address ozone. These coalitions include local governmental entities, elected officials, environmental groups, industry, consultants, and the public, as well as EPA and the commission, and worked diligently to identify and quantify control strategy measures for the HGB area attainment demonstration.

December 2000

The December 2000 SIP revision contained rules and photochemical modeling analyses in support of the HGB area ozone attainment demonstration. The majority of the emissions reductions identified in this revision were from a 90% reduction in point source NO_x. The modeling analysis also indicated a shortfall in necessary NO_x emission reductions, such that an additional 91 tons per day (tpd) of NO_x reductions were necessary for an approvable attainment demonstration. In addition, the revision contained post-1999 rate-of-progress (ROP) plans for the milestone years 2002 and 2005 and for the attainment year 2007, and transportation conformity motor vehicle emissions budgets (MVEB) for NO_x and volatile organic compound (VOC) emissions. The SIP also contained enforceable commitments to implement further measures in support of the HGB area attainment demonstration, as well as a commitment to perform and submit a midcourse review.

September 2001

The September 2001 SIP revision for the HGB area included the following elements: 1) corrections to the ROP table/budget for the years 2002, 2005, and 2007 due to a mathematical inconsistency; 2) incorporation of a change to the idling restriction control strategy to clarify that the operator of a rented or leased vehicle is responsible for compliance with the requirements in situations where the operator of a leased or rented vehicle is not employed by the owner of the vehicle (the commission committed to making this change when the rule was adopted in December 2000); 3) incorporation of revisions to the clean diesel fuel rules to provide greater flexibility for compliance with the requirements of the rule while preserving the emission reductions necessary to demonstrate attainment in the HGB area; 4) incorporation of a stationary diesel engine rule that was developed as a result of the state's analysis of EPA's reasonably available control measures; 5) incorporation of revisions to the point source NO_x rules; 6) incorporation of revisions to the emissions cap and trade rules; 7) the removal of the construction equipment operating restriction and the accelerated purchase requirement for Tier 2/3 heavy-duty equipment; 8) the replacement of these rules with the Texas Emission Reduction Plan program; 9) the layout of the midcourse review process that details how the state will fulfill the commitment to obtain the additional emission reductions necessary to demonstrate attainment of the one-hour ozone standard in the HGB area; and 10) replacement of the 2007 ROP MVEBs to be consistent with the attainment MVEBs.

As was discussed in the December 2000 revision, the modeling resulted in a 141 ppb peak ozone level that correlated to a shortfall calculation of 91 tpd NO_x equivalent emissions. An additional five tpd was added to the shortfall, because the state could not take credit for the NO_x reductions associated with the

diesel pull-ahead strategy. The excess emissions from this strategy were not included in the original emissions inventory. The gap control measures adopted in December 2000, along with the stationary diesel engine rules included in the September 2001 revision, resulted in NO_x reductions of 40 tpd, which left a total remaining shortfall of 56 tpd. The state committed to address this shortfall through the midcourse review process.

December 2002

In January 2001, the Business Coalition for Clean Air - Appeal Group (BCCA-AG) and several regulated companies challenged the December 2000 HGB SIP and some of the associated rules. Specifically, the BCCA-AG challenged the 90% NO_x reduction requirement from stationary sources in the HGB area. In May 2001, the parties agreed to a stay in the case, and the Honorable Margaret Cooper, Travis County District Court Judge, signed a consent order, effective June 8, 2001, requiring the commission to perform an independent, thorough analysis of the causes of rapid ozone formation events and identify potential mitigating measures not yet identified in the HGB area attainment demonstration, according to the milestones and procedures in Exhibit C (Scientific Evaluation) of the order.

In compliance with the consent order, the commission conducted a scientific evaluation based in large part on aircraft data collected by the *Texas 2000 Air Quality Study* (TexAQS). The TexAQS, a comprehensive research project conducted in August and September 2000 involving more than 40 research organizations and over 200 scientists, studied ground-level ozone air pollution in the HGB area and East Texas regions. The study revealed that the ambient concentrations of NO_x and certain VOCs

(terminal olefins) were not consistent with the industrial emissions estimates. Specifically, the ratio of terminal olefins to NO_x did not correlate to the ambient ratio of these VOCs to NO_x. Because of the greater certainty associated with NO_x emissions, the commission concluded that industrial emissions of terminal olefins were likely understated in earlier emission inventories.

To address findings from TexAQS, and to fulfill obligations in the consent order, the commission adopted a SIP revision in December 2002 that focused on replacing the most stringent 10% industrial NO_x reductions with VOC controls. In light of the TexAQS study, the commission conducted further modeling analysis of ambient VOC data. The photochemical grid modeling results and analysis indicated that the HGB area can achieve the same air quality benefits with industrial VOC emission reductions, combined with 80% industrial NO_x emissions reductions, as would be realized with a 90% industrial NO_x emission reduction. An analysis of automated gas chromatograph data revealed that four compounds were frequently responsible for high reactivity days: ethylene, propylene, 1,3-butadiene, and butenes. As such, these compounds were selected as the best candidates for HRVOC emission controls.

The commission adopted revisions to the industrial source control requirements, one of the control strategies within the existing federally approved SIP. The December 2002 revision contained new rules to reduce HRVOC emissions from four key industrial sources: fugitives, flares, process vents, and cooling towers. The adopted rules target HRVOCs while maintaining the integrity of the SIP. Analysis showed that limiting emissions of ethylene, propylene, 1,3-butadiene, and butenes in conjunction with an 80% reduction in NO_x is equivalent in terms of air quality benefit to that resulting from a 90% point

source NO_x reduction requirement. As such, the HRVOC rules are performance-based, emphasizing monitoring, recordkeeping, reporting, and enforcement, rather than establishing individual unit emission rates.

The technical support documentation accompanying the 2002 SIP revision describes modeling and ambient data analyses that demonstrate that reductions in HRVOC emissions can replace the last 10% of industrial NO_x controls.

Current SIP Revision

The commission committed in 2000 to perform a midcourse review to ensure attainment of the one-hour ozone standard. The midcourse review process provides the opportunity to update emissions inventory data, to use current modeling tools, such as MOBILE6, and to enhance the photochemical grid modeling. The data gathered from the TexAQS continues to improve photochemical modeling of the HGB area. The collection of these technical improvements give a more comprehensive understanding of the ozone challenge in the HGB area that is necessary to develop an attainment plan. In the early part of 2003, the commission was preparing to move forward with the midcourse review; however, during the same time period EPA announced its plans to begin implementation of the eight-hour ozone standard. The EPA published proposed rules for implementation of the eight-hour ozone standard in the June 2, 2003, issue of the Federal Register (68 FR 32802). In the same time frame, EPA also formalized its intentions to designate areas for the eight-hour ozone standard by April 15, 2004, meaning states would need to reassess their efforts and control strategies to address this new standard by 2007. Recognizing that existing one-hour nonattainment areas would soon be subject to the eight-

hour ozone standard, and in an effort to efficiently manage the state's limited resources, the commission decided to develop an approach that addresses the outstanding obligations under the one-hour ozone standard while beginning to analyze eight-hour ozone issues.

The commission's one-hour ozone SIP commitments include: 1) completing a one-hour ozone midcourse review; 2) performing modeling; 3) adopting measures sufficient to fill the NO_x shortfall; 4) adopting measures sufficient to demonstrate attainment; and 5) revising the MVEB using MOBILE6.

Results from the TexAQS and recent photochemical modeling suggest that ozone formation in the HGB area stems from a combination of two different types of emissions. The first is the daily routine emissions of a large industrial base located in an urban core with on-road and non-road emissions typical of a city of four million people. These emissions can be thought of as the base of emissions that could be expected at any given time in the HGB area. The second type of emissions can be characterized as the fluctuations that occur daily, even hourly in the HGB area resulting from sudden sharp increases in short-term HRVOC releases. While these emission fluctuations can occur in any industrial area, the dense concentration of chemical and refinery sites makes this a particular concern in the HGB area.

Ozone forms rapidly when these variable emissions occur in the immediate presence of NO_x, under the right atmospheric conditions. The design value in the HGB area is driven by a combination of these two types of emissions. To address ozone formation in the HGB area, a dual strategy is needed to reduce the base of emissions existing continuously in the HGB area as well as restrictions on a short-

term basis to address short-term variations. To address the "base" emissions, control strategies are needed that resemble those used by other metropolitan areas with a combination of a large urban population and a significant industrial base. These strategies include motor vehicle inspection and maintenance, cleaner fuels, cleaner technology for construction equipment, industrial-based controls for routine NO_x and VOC emissions, and a long-term cap on HRVOCs. To address the short-term variable emissions, a restriction of the maximum hourly rate of HRVOCs is necessary. This restriction would apply to both unauthorized emissions as well as to permitted emissions that may fluctuate on an hourly basis.

To achieve the necessary HRVOC reductions, the commission developed a dual approach that addresses variable short-term emissions through a not-to-exceed hourly emission limit, and that addresses steady-state and routine emissions through an annual cap. The annual HRVOC cap and fugitive emission rules will reduce the overall reactivity in the airshed by removing the compounds that are most prevalent and most likely to react rapidly enough to cause one-hour ozone exceedances. The annual HRVOC cap in Harris County will be reduced from the existing HRVOC cap in response to support the attainment demonstration modeling. The annual HRVOC cap in the seven-county surrounding area is equivalent to the total emissions limits established in the December 2002 SIP revision, but represented on an annual basis instead of a 24-hour rolling average. Based on information provided, the commission determined that enforceable limits on HRVOC emissions within the seven surrounding counties may be sufficient without the need for an additional cap and trade system for those counties. Therefore, the commission has provided an exemption from the short-term and annual caps for sites in those seven counties. The executive director will continue to evaluate the necessity to require short-term and annual reductions

from those sites subject to Chapter 115, Subchapter H, Divisions 1 and 2, that are located within the seven-county surrounding area. If the evaluation reveals that the total amount of enforceable HRVOC emissions is at a level that is inconsistent with the attainment demonstration of the one-hour NAAQS for ozone by the attainment date, the commission may revoke the exemption. The commission also solicited comments on possible ways to mitigate violations of the short-term emissions cap.

The annual HRVOC cap emissions in Harris County would be distributed and enforced through an HRVOC emissions cap and trade program under 30 TAC Chapter 101, Subchapter H, new Division 6 (Highly-Reactive Volatile Organic Compound Emissions Cap and Trade Program) being adopted in concurrent rulemaking. This program would establish a mandatory annual HRVOC emissions cap on all sites located in Harris County that emit or have the potential to emit more than ten tons per year of HRVOC, and that are subject to the HRVOC control requirements of Chapter 115, Subchapter H, Division 1 or Division 2. The cap would be enforced by the allocation, trading, and banking of allowances. An allowance is the equivalent of one ton of HRVOC emissions. This HRVOC cap is established at a level demonstrated as necessary to allow the HGB area to attain the one-hour ozone standard along with a 5% reduction to safeguard against potential emissions variations. The adopted cap would initially be implemented on January 1, 2007. The adopted HRVOC cap and trade program would also require all sites with new or modified HRVOC sources in Harris County to obtain unused allowances from other sites already participating under the cap to offset any increased HRVOC emissions. For sites in Harris County that have the potential to emit ten tons per year or less of HRVOCs from sources subject to the HRVOC control requirements of Subchapter H, Division 1 or 2, the total aggregate HRVOC emissions from those sources would be limited to ten tons per year. Sites

that are exempt from the HRVOC emissions cap and trade program would be extended an opportunity to opt-in, receive an HRVOC allocation, and thereby not be restricted to the ten tons per year limit.

The HGB area SIP no longer relies primarily on NO_x-based strategies. A combination of point source HRVOC controls and NO_x reductions is the most effective means of reducing ozone in the HGB area. Under this revision, there is no longer a NO_x shortfall in the HGB SIP. The commission also evaluated a number of the existing control strategies that were put in place in the December 2000 revision. The photochemical modeling shows that some of these strategies are no longer necessary to attain the one-hour ozone standard. This SIP revision is repealing the commercial lawn and garden equipment restrictions and the heavy-duty vehicle idling restrictions, and removing the motor vehicle inspection and maintenance program requirements from Chambers, Liberty, and Waller Counties. In addition, this SIP includes revisions to the environmental speed limit strategy. In September 2002, the commission revised the existing speed limit strategy to suspend the 55-mile per hour (mph) speed limit until May 1, 2005, and, where posted speeds were 65 mph or higher before May 1, 2002, to increase speed limits to five mph below what was posted. The 78th Legislature, 2003, removed the commission's authority to determine speed limits for environmental purposes; therefore, this SIP removes the reinstatement of the 55 mph speed limit on May 1, 2005, and maintains the currently posted speed limits at five mph below the posted limit before May 1, 2002. Also, as part of this SIP revision, the commission is adopting new statewide portable fuel container rules. Historically, the commission has expressed a preference to implement technology-based strategies over behavior-altering strategies, and these adopted changes embody that philosophy.

Through this revision, the commission is fulfilling its outstanding one-hour ozone SIP obligations and beginning to plan for the upcoming eight-hour ozone standard. This SIP demonstrates attainment of the one-hour ozone standard in the HGB area in 2007 and provides a preliminary analysis of the HGB area in terms of the eight-hour ozone standard in 2007 and 2010. EPA's proposed eight-hour implementation rules provide flexibility to the states in transitioning from the one-hour to the eight-hour ozone standard, and the commission maintains that the steps taken in this proposal and the technical work performed to date will be invaluable through the transition period. Upon EPA's finalization of the eight-hour implementation and the transportation conformity rules, the commission expects to begin developing eight-hour ozone SIPs.

The commission continues to analyze the rules for implementation of the eight-hour ozone standard adopted by EPA on April 15, 2004. This additional analysis of the impact of the adopted rules on attainment of the eight-hour standard may indicate a need for new or more stringent control measures and could result in the modification of the HRVOC emissions caps established under these adopted rules. Finally, the commission is also concurrently adopting a cap and trade program in Chapter 101, Subchapter H, new Division 6 as a refinement of the annual cap proposed for HRVOC emissions.

SECTION BY SECTION DISCUSSION

General Administrative Rule Language Changes

The commission adopts amendments in numerous locations in the rule language to change the word "which" to "that" and the word "shall" to "must" to conform to the drafting rules in the *Texas Legislative Council Drafting Manual*, October 2002.

The commission adopts amendments to spell out acronyms the first time they are used in a section and to delete acronyms that are only used once in a section. The commission also adopts amendments to §§115.10, 115.720, 115.722, 115.760, 115.761, and 115.780 to change all references from the Houston/Galveston area to the HGB area to correspond to federal references to the area.

SUBCHAPTER A, DEFINITIONS

The commission adopts the amendment to §115.10, concerning Definitions. The amendment adds a new definition of "Emergency flare" to differentiate flares that only receive emissions during upset events. Unscheduled maintenance, startup, or shutdown activities from other flares are not included in the adopted definition and are handled elsewhere in the rule. The remaining definitions in §115.10 are renumbered accordingly.

The amendment to the definition of "Houston/Galveston area" adds "or Houston/Galveston/Brazoria area" because the both references are used throughout Chapter 115. The amendment to the definition of "Strippable volatile organic compound" removes the listing of test methods used to determine the concentration of strippable VOC because the test methods are not necessary to define the term and are already listed in the cooling tower rules in Division 2 of this subchapter.

SUBCHAPTER H, HIGHLY-REACTIVE VOLATILE ORGANIC COMPOUNDS

Division 1, Vent Gas Control

Section 115.720, Applicability and Definitions

The commission adopts the amendment to §115.720. The amendment to §115.720(a) adds language to specify that the applicability of this rule includes both controlled and uncontrolled vent gas streams containing HRVOC at a "site" instead of an "account." The amendment adds a new definition for "Degassing safety device" in §115.720(b) to address low-flow pilots that are typically permitted as flares, but used only at geologic storage facilities during emergency releases. In response to comments, the amendment also revised the definition for "Supplementary fuel" in §115.720(b)(2) as natural gas or fuel gas added to the gas stream to increase the net heating value. In response to comments, the amendment includes a more concise definition for "Pilot gas" in §115.720(b)(3). The remaining definitions in §115.720 are renumbered accordingly.

Section 115.722, Site-wide Cap and Control Requirements

The commission adopts the amendment to §115.722 to allow sites the flexibility of compliance with the vent gas control requirements of this division through compliance with the HRVOC emissions cap and trade program. The amendment to §115.722(a) changes the long-term site-wide cap strategy to a calendar year basis instead of the existing 24-hour rolling average basis, and states that owners or operators of a site subject to the HRVOC vent gas rules shall comply with the HRVOC emissions cap and trade program in Chapter 101, Subchapter H, Division 6. The amendment to §115.722(a) also removes the reference to the site-cap limits in the tables of the SIP.

The commission adopts §115.722(b) specifying that Harris County sites subject to this division or to Division 2, but that are exempt from the HRVOC emissions cap and trade program in accordance with 30 TAC §101.392(a) (Exemptions), are limited to ten tons of HRVOC emissions per calendar year.

The commission adopts §115.722(c) to provide a short-term, not-to-exceed limit of 1,200 pounds of HRVOC per one-hour block, for Harris County sites subject to this division. The commission evaluated the magnitude of the short-term limit, and the time period over which this short-term limit would be enforced. The commission also solicited comments regarding the appropriate level for this short-term limit, and requested any supporting data regarding alternatives to the magnitude and time period. The comments received are addressed in the RESPONSE TO COMMENTS section of this preamble. Adopted §115.722(c)(3) addresses how exceedances of the short-term limits should be calculated to determine compliance with the long-term cap. Existing §115.722(b) and (c) are relettered to §115.722(d) and (e), respectively. The amendment to relettered §115.722(d) corrects a citation to 40 Code of Federal Regulations (CFR) §60.18 and adds two new paragraphs to specify the methods to demonstrate compliance with the minimum net heating value requirements and the maximum exit velocity requirements. The commission adopted the amendment to §115.722(d) that changes the phrase, "volatile organic compounds" to "HRVOCs." The commission did not propose to require continuous monitoring of potential visible emissions from flares.

Section 115.725, Monitoring and Testing Requirements

The commission adopts the amendment to §115.725(a) to specify that pressure relief valves (PRV) are not subject to the requirements of §115.725(a). The amendment to §115.725(a) specifies that each vent

gas, at a "site" instead of an "account," that is not controlled by a flare must be tested, and specifies that HRVOC emissions are considered to be zero during non-operational periods for cyclic or batch processes. Additionally, the amendment adds requirements in §115.725(a)(1) and (2) for owners or operators to select operational parameters for uncontrolled and controlled vents, monitor those parameters, and establish operating limits based on averages during the tests required by §115.725(a). The term, "correlates to" has been changed to "affects" throughout §115.725(a) with regard to the selection of operational parameters. This amendment is made to clarify that the commission did not intend to imply that parameter monitoring will be used to predict or estimate HRVOC emission rates, or that the selected parameter or parameters must be directly proportional with emission rates or control device efficiency, as in the statistical definition of the phrase. The process parameter monitoring requirements are necessary to help assure compliance with the site-wide caps in §115.722(c). Adopted §115.725(a)(3) requires that HRVOC emissions during emissions events and scheduled startup, shutdown, and maintenance activities be determined using either testing or process knowledge and engineering calculations. This requirement is necessary due to the inclusion of emissions from emissions events and scheduled startup, shutdown, and maintenance activities in the site-wide caps in §115.722 and to better assure compliance with the HGB area attainment demonstration SIP. Adopted §115.725(a)(4) requires the owner or operator to develop, implement, and follow written monitoring plans for the operational parameters required under §115.725(a)(1) and (2). Adopted §115.725(a)(5) specifies that additional testing may be performed to update emission data after the initial HRVOC emission test has been performed, and that written notification of testing must be submitted to the Houston regional office as specified in §115.726(a)(2). Adopted §115.725(a)(6) includes the provisions previously in §115.725(c), regarding the use of testing performed prior to December 31, 2004, and

expands §115.725(a)(6)(A) to add language providing additional flexibility. Adopted §115.725(a)(7) includes the language previously in §115.725(g), regarding test waivers for one-half of the vents that are identical in design and operation. Adopted §115.725(a)(7)(B) has been modified since proposal to change the requirement to submit test results from 45 days after the date of written authorization of the temporary waiver to no later than 60 days after completion of testing. Adopted §115.725(a)(7)(C) has been added since proposal to specify that for demonstrating compliance with the control requirements of §115.722(a) - (c), the HRVOC emission test results from the vent gas stream with the maximum HRVOC emission rate of those vents tested under this paragraph must be used for those vent gas streams for which a waiver of testing, temporary or permanent, has been authorized.

The commission adopts the amendment to §115.725(b) that specifies that the alternatives provided may not be applied to PRVs and that the vent gas stream must comply with the process parameter monitoring requirements of §115.725(a). The amendment to §115.725(b)(1)(B) specifies that cylinder gas audits must be performed at a minimum quarterly, after the initial cylinder gas audit. The amendment in §115.725(b)(2) specifies that process data, "sufficient to demonstrate compliance status" may be used to determine maximum potential HRVOC hourly emissions, and removes PRVs from the types of processes for which process knowledge may be used. Adopted §115.725(b)(1)(D) and (E) have been added in response to comments, which adds a provision for parameter monitoring requirements to be used in lieu of the requirements of §115.725(a)(1) or (2). Finally, the amendment to §115.725(b) includes the addition of degassing safety devices in §115.725(b)(2)(D) to the types of vent gas streams for which process knowledge may be used in lieu of testing. The proposal erroneously referred to these vent gas streams as "processes" and was therefore changed in response to comments.

The commission adopts §115.725(c) that provides monitoring requirements for PRVs. Adopted §115.725(c)(1) specifies the requirements of the PRV monitoring system. Adopted §115.725(c)(2) specifies that the owner or operator may use process knowledge to determine the HRVOC emission rates during events when the PRVs open. Adopted §115.725(c)(3) requires written monitoring plans for the PRV monitoring systems, and specifies the requirements of the plans. Finally, adopted §115.725(c)(4) specifies that the written monitoring plans must be submitted within 30 days upon written request by the executive director, and that the executive director may require additional or alternative monitoring requirements.

The commission adopts the amendment to §115.725(d) that specifies that except for subsections (e) - (k), the owner or operator shall perform continuous monitoring in accordance with the requirements of §115.725(d) to demonstrate compliance with §115.722(a) - (d). The amendment to §115.725(d)(2) revises the calibration requirements for the on-line analyzer. The amendment to §115.725(d)(2)(A)(i) specifies that for HRVOC constituents, the owner or operator must follow the procedures and requirements of 40 CFR Part 60, Appendix B, Section 10 of Performance Specification 9, except as provided for in §115.725(d)(2)(A)(i). Adopted §115.725(d)(2)(A)(ii) specifies that for constituent monitoring to determine net heating value and molecular weight, the owner or operator may elect to follow the §115.725(d)(2)(A)(i) calibration requirements or the manufacturer recommended procedures. Adopted §115.725(d)(2)(A)(ii)(I) requires that if the manufacturer recommended procedures are selected, those procedures must include, at a minimum, weekly calibration checks of the top two non-HRVOC constituents affecting molecular weight and net heating value to meet the performance criteria of Section 10.2 of Performance Specification 9. Adopted §115.725(d)(2)(A)(ii)(II) requires that

manufacturer information and data be included in the quality assurance plan (QAP) for those constituents for which routine calibration is not performed. Adopted §115.725(d)(2)(A)(iii) specifies that the range of calibration standards required for calibration of the on-line analyzer may be based on the typical concentrations instead of the full potential range of concentrations. Adopted §115.725(d)(2)(A)(iii) also specifies that data must be included in the QAP to demonstrate the accuracy of the analyzer at the maximum concentrations outside the adopted calibration range. The language in the adopted amendment to §115.725(d)(2)(A)(iii) differs from the proposed language because QAPs are no longer required to be submitted. Adopted §115.725(d)(2)(A)(iv) states that the executive director may specify calibration requirements in the approval of the QAP. Finally, proposed §115.725(d)(2)(B) that specified that the owner or operator may install an on-line calorimeter to determine net heating value instead of monitoring for individual constituents to determine net heating value is adopted as §115.725(m)(1). The adopted amendment to §115.725(d)(2)(B) was revised to specify that if the on-line analyzer required in paragraph (2) measures concentrations on a dry basis, then the results must be corrected for moisture when determining net heating value according to the requirements in 40 CFR §60.18(f)(3) or when determining mass rates using volumetric flow rates that are on a wet basis. The adopted amendment outlines the methods that may be used to determine moisture for the correction. The commission notes that a reference in 40 CFR Part 60, Appendix B, Performance Specification 9, Section 10.1 incorrectly cites Section 13.3 of Performance Specification 9 with regard to the acceptance criteria for multipoint calibration requirements. Section 13.3 requires industry to comply with a five-minute sampling frequency for the on-line analyzers. EPA confirmed that the correct citation for the precision and linearity requirements should be Section 13.2 of Performance Specification 9. Therefore,

it is the commission's position that industry should comply with the multipoint calibration requirements in Section 13.2 of Performance Specification 9.

The amendment to §115.725(d)(3) specifies the calculation methodology to determine the percent measurement data availability. The amendment to §115.725(d)(4) changes the start of daily sampling from within 24 hours to within ten hours of initial on-line analyzer malfunction, and specifies that the samples collected during periods of monitor downtime shall be used to demonstrate "continuous compliance with the requirements of §115.722(a) - (d) of this title." The adopted amendment to §115.725(d)(5), (6), and (7) changes the determination of flare efficiency from a 15-minute basis for emission calculation purposes to each block hour period. The amendment to §115.725(d)(5) deletes the language specifying that compliance with the minimum net heating value requirements of §115.722(d) is based on a one-hour block average, and moves the language to §115.722(d)(1). The language in §115.725(d)(7) is renumbered to §115.725(d)(6) and revised to move language to §115.722(d)(2) specifying that compliance with the exit velocity requirements is based on a block one-hour average. Additionally, §115.725(d)(6) is renumbered to §115.725(d)(7) and revised to specify that HRVOC emission rates shall be calculated from data gathered according to paragraphs (1) - (6), and to specify that the heating value requirement is based on net heating value. Finally, in order to better organize the monitoring and testing rules, §115.725(d)(8) regarding minor modifications to the methods and alternative monitoring methods, is moved to adopted §115.725(m) and the language revised to better specify the requirements.

The commission adopts the amendment to §115.725(e) that specifies that this subsection applies to flares used solely for marine loading operations or transport loading and unloading operations. Adopted §115.725(e) does not apply to temporary portable flares used solely for scheduled startup, shutdown, or maintenance activities because these flares are addressed in the adopted §115.725(f). The commission had proposed an amendment to §115.725(e) that would have specified that this subsection only applies to flares used solely for abatement of HRVOC emissions. However, based on comments received, the commission determined that this amendment would make §115.725(e) too restrictive. Therefore, this proposed change was not included in adopted §115.725(e). The amendment also moves the recordkeeping requirements in §115.725(e)(1)(B) to §115.726(d)(5), and renumbers §115.725(e)(1)(A) - (D) to §115.725(e)(1) - (3). The amendment to §115.725(e)(1) - (3) also specifies the requirements to demonstrate compliance with the minimum net heating value requirements and the exit velocity requirements of §115.722(d), and compliance with the site-wide cap in §115.722. Section 115.725(e)(3) has been revised to specify that a destruction efficiency of 93% must be used to determine HRVOC emissions during each one-hour block period instead of each 15-minute period that a flare does not meet the minimum net heating value or exit velocity requirements. Additionally, §115.725(e)(2) has been revised to specify that exit velocity shall be calculated on a one-hour block average basis to be consistent with the time periods specified for compliance in §115.722. Based on comments received, the commission determined that the requirement to determine flare efficiency on a 15-minute basis for emission calculation purposes, while compliance with the net heating value and exit velocity requirements are on a hourly basis, is overly complicated to the data handling and recordkeeping process.

Adopted §115.725(e)(4) specifies that the owner or operator may use process knowledge to determine net heating value for demonstrating compliance with §115.722(d) for flares that receive greater than 95% of an individual HRVOC at all times. Proposed §115.725(e)(4) specified that flares that received greater than 98% of an individual HRVOC at all times could use process knowledge to determine net heating value and HRVOC emissions. The provision to use process knowledge to determine HRVOC emissions was removed from §115.725(e)(4) because §115.725(e)(3) already allows loading emission calculations for all flares that are subject to §115.725(e) and the duplicative provision in §115.725(e)(4) was unnecessary. The original intent of §115.725(e)(4) was to provide an alternative to the on-line calorimeter required by §115.725(f)(3) for flares that receive predominantly pure HRVOC. The level of HRVOC required was decreased to 95% in the adopted §115.725(e)(4) because, based on comments received, the 95% level is still sufficient to assure that minimum net heating value can be determined without requiring an on-line calorimeter.

The commission adopts the amendment that reletters §115.725(f) to §115.725(m) and specifies that minor modifications and alternatives to either test methods or monitoring methods may be approved by the executive director.

The commission adopts §115.725(f) that specifies monitoring requirements for flares used solely for abatement of emissions from scheduled and unscheduled startup, shutdown, and maintenance activities. Proposed §115.725(f) was applicable to flares used solely for scheduled startup, shutdown, and maintenance activities. However, a scheduled startup, shutdown, or maintenance activity may become an unscheduled activity if an emissions limit is exceeded during the activity, thereby becoming an

emissions event. Even if the emissions event is exempted as provided in Chapter 101, Subchapter F, the owner or operator would still receive a violation for sending emissions from an unscheduled activity to a flare subject to §115.725(f) if only scheduled startup, shutdown, or maintenance activities are allowed for that subsection. Therefore, the commission revised §115.725(f) to include both scheduled and unscheduled startup, shutdown, and maintenance activities.

Adopted §115.725(f) incorporates language removed from §115.725(e)(2), regarding temporary portable flares, and also expands the applicability to any flare type used solely for scheduled or unscheduled startup, shutdown, and maintenance activities. Based on comments received, the limits specified in adopted §115.725(f)(1) and (2) are specified in hours rather than days to better reflect how these types of flares are used. Additionally, because §115.725(f) has been expanded to include unscheduled startup, shutdown, and maintenance activities, additional time has been provided in the limits specified in §115.725(f)(1) and (2) to account for this revision. Section 115.725(f)(1) limits the total number of hours to 720 hours in 12 consecutive months for a single flare operated in HRVOC service at a site, and §115.725(f)(2) limits the total number of hours to 1,440 hours in 12 consecutive months that a site may send HRVOC to multiple flares under the provisions of §115.725(f). Both §115.725(f)(1) and (2) have been revised to specify “site” rather than “account” to be consistent with the terminology used in §115.722. Section 115.725(f)(5) has been revised to specify that a destruction efficiency of 93% must be used to determine HRVOC emissions during each one-hour block period instead of each 15-minute period that a flare does not meet the minimum net heating value or exit velocity requirements. Additionally, §115.725(e)(5) has been revised to specify that exit velocity shall be calculated on a one-hour block average basis to be consistent with the time periods specified for

compliance in §115.722. Based on comments received, the commission determined that the requirement to determine flare efficiency on a 15-minute basis for emission calculation purposes while compliance with the net heating value and exit velocity requirements are on a hourly basis is overly complicated to the data handling and recordkeeping process.

Adopted §115.725(f)(6) specifies that the owner or operator may use process knowledge to determine net heating value for flares that receive greater than 95% of an individual HRVOC at all times. Proposed §115.725(f)(6) specified that flares that received greater than 98% of an individual HRVOC at all times could use process knowledge to determine net heating value and HRVOC emissions. The provision to use process knowledge to determine HRVOC emissions was removed from §115.725(f)(6) because §115.725(f)(5) already allows process knowledge for determining HRVOC emissions for all flares that are subject to §115.725(f) and the duplicative provision in §115.725(f)(6) was unnecessary. The original intent of §115.725(f)(6) was to provide an alternative to the on-line calorimeter required by §115.725(f)(3) for flares that receive predominantly pure HRVOC. Additionally, based on comments received, the level of HRVOC required was decreased to 95% in adopted §115.725(f)(6).

The commission adopts the amendment to §115.725(g), regarding test waivers for one-half of the vents that are identical in design and operation, that moves the language to §115.725(a)(7).

The commission adopts §115.725(g), that specifies monitoring requirements for emergency flares as defined in adopted §115.10(12). Proposed §115.725(g) was applicable solely to emergency flares, which were defined as in proposed §115.10(12), to include flares that only receive emissions during an

emissions event, i.e., an upset event or unscheduled startup, shutdown, or maintenance activities. However, as noted previously in this preamble, a scheduled startup, shutdown, or maintenance activity may become an unscheduled activity if an emissions limit is exceeded during the activity, thereby becoming an emissions event. The commission revised adopted §115.725(f) to include both scheduled and unscheduled startup, shutdown, and maintenance activities. Therefore, in the adopted rules, the definition of an emergency flare in §115.10(12) and the provisions in §115.725(g) have been revised to only include emissions from upset events. Adopted §115.725(g)(1) and (2) provide the option of complying with the monitoring requirements of §115.725(d) or using process knowledge and engineering calculations to determine compliance with §115.722(a) - (d). Adopted §115.725(g)(2) specifies additional requirements for emergency flares for which process knowledge and engineering calculations are used. Adopted §115.725(g)(2)(A) specifies parameter monitoring for emergency flares with physical seals, such as water seals, to monitor the status of the physical seals, record the time and duration of each event when emissions are sent to the flare, and verify that the seals have been restored after an event. Adopted §115.725(g)(2)(B) specifies parameter monitoring for emergency flares without physical seals to monitor flow to the emergency flare with a flow monitor or flow indicator to determine the time and duration of each event when emissions are sent to the flare and to determine the minimum flow rate that indicates when emissions are sent to the flare. Adopted §115.725(g)(2)(C) specifies that any owner or operator electing to use process knowledge for emergency flares must develop, implement, and follow a written monitoring plan for the parameter monitoring under §115.725(g)(2)(A) or (B). Adopted §115.725(g)(2)(C)(ii) was also revised to include in the monitoring plan any actual testing performed in accordance with §115.725(g)(2)(B). Adopted §115.725(g)(2)(D) specifies that the written monitoring plans must be submitted within 30 days upon written request by the

executive director. Finally, adopted §115.725(g)(2)(E) specifies the calculation methods for the actual exit velocity and the HRVOC hourly average mass emission rate from the flare, and the destruction efficiencies for various situations. Additionally, based on comments received, adopted §115.725(g)(2)(E) has been revised to specify that a destruction efficiency of 93% must be used to determine HRVOC emissions during each one-hour block period instead of each 15-minute period that a flare does not meet the minimum net heating value or exit velocity requirements, and to specify that exit velocity shall be calculated on a one-hour block average basis to be consistent with the time periods specified for compliance in §115.722.

The commission adopts §115.725(h) that specifies requirements for flares other than emergency flares that temporarily receive HRVOC emissions from activities other than scheduled and unscheduled startup, shutdown, and maintenance. The language in the adopted §115.725(h) was revised to reflect changes in §115.725(f) and (g) regarding scheduled and unscheduled startup, shutdown, and maintenance activities. Adopted §115.725(h)(1) and (2) limits the total time that HRVOC may be temporarily sent to an individual flare, or to multiple flares at a site under the provisions of §115.725(h). Based on comments received, the limits in §115.725(h)(1) and (2) are specified in hours rather than days; however, the time limits specified in §115.725(h)(1) and (2) are not increased. Adopted §115.725(h)(3) allows options to determine flow rate to the flare in lieu of monitoring in accordance with §115.725(d)(2), including process knowledge, actual measurement, or for flares that temporarily receive HRVOC emissions from flare systems that are monitored according to §115.725(d), data substitution. Based on comments received, adopted §115.725(h)(3)(C) was revised to specify that the maximum one-hour average flow rate must be used if the owner or operator chooses to use data

substitution. Adopted §115.725(h)(4) specifies options to determine net heating value and HRVOC constituents in lieu of monitoring in accordance with §115.725(d)(2), including daily sampling according to §115.725(d)(4) or, for flares that temporarily receive HRVOC emissions from flare systems that are monitored according §115.725(d), data substitution for time periods up to 72 consecutive hours. Adopted §115.727(h)(4)(B) was revised to specify that the maximum one-hour average total HRVOC and minimum one-hour average net heating value must be used for data substitution. Finally, adopted §115.725(h)(5) specifies that, if an emissions event occurs while HRVOC emissions are sent temporarily to a flare under §115.725(h), then process knowledge may be used to determine compliance with §115.722(a) - (d).

The commission adopts §115.725(i) to specify that process knowledge may be used to determine compliance with §115.722(a) - (d) for flares that are specifically designed to receive and control liquid or dual phase streams. This amendment is necessary because the monitoring provisions in §115.725 are not applicable to flares designed to control liquid streams, and the current state of monitoring technology is not sufficient to allow continuous monitoring of dual phase streams.

The commission adopts §115.725(j) to provide alternative monitoring provisions for a special category of flares that are used to control vent gases from metal alkyl production processes. Based on comments received, the commission determined that the requirements for on-line analyzers in §115.725(d)(2) may not be practicable for flares in this type of service. Adopted §115.725(j)(1) specifies that flow monitoring in accordance with §115.725(d)(1) is still required; however, the owner or operator may request alternative parameter monitoring for situations where direct flow monitoring may not be

possible. Adopted §115.725(j)(2) allows the use of process knowledge and engineering calculations for determining net heating value and HRVOC concentrations.

The commission adopts §115.725(k) to allow for certain multi-purpose flares. This new subsection is adopted based on comments received to provide greater flexibility to owners or operators in the operation of flares subject to the rules. Adopted §115.725(k)(1) provides the option for an owner or operator of a multi-purpose flare to comply with the monitoring requirements in §115.725(d), and adopted §115.725(k)(2) allows the owner or operator to comply with the most stringent requirements of the applicable subsections that the flare may be subject to. Adopted §115.725(k)(2)(A) specifies that only flares subject to the monitoring requirements of §115.725(e), (f), or (g) may be considered multi-purpose flares and §115.725(k)(2)(B) specifies those requirements of §115.725(e), (f), and (g) that will apply, as applicable, to a multi-purpose flare. Adopted §115.725(k)(2)(B)(i) specifies the requirements for determining net heating value and §115.725(k)(2)(B)(ii) specifies the requirements for determining volumetric flow rate and HRVOC emissions, depending on the specific activity. Section 115.725(k)(2)(B)(iii) specifies that the time limitations in §115.725(f)(1) and (2) will apply for any activities that are scheduled or unscheduled maintenance, startup, or shutdown activity. Adopted §115.725(k)(2)(B)(iv) requires that multi-purpose flares that are emergency flares must satisfy the monitoring requirements of §115.725(g)(2)(A) - (D). Finally, adopted §115.725(k)(2)(C) clarifies that multiple clauses under §115.725(k)(2) will apply to multi-purpose flares.

Based on comments received, the commission is adopting §115.725(l) to specify that all monitoring systems required by §115.725 must be continuously operated as required at least 95% of the operating

time of the applicable flare, vent gas stream, or PRV. Adopted §115.725(l)(1) - (3) specifies what is considered to be operating time for each of the source types.

The commission adopts §115.725(m), originally proposed as §115.725(j), that incorporates language previously in §115.725(f) to specify that minor modifications to either test methods or monitoring methods may be approved the executive director. Adopted §115.725(m) is also revised to specify that alternatives to monitoring may be approved by the executive director in addition to alternatives to test methods. Section 115.725(m) was further revised to include specific alternatives that do not require prior approval from the executive director. Adopted §115.725(m)(1) incorporates language moved from §115.725(d)(2)(B) that allows an owner or operator to use on-line calorimeters in lieu of monitoring constituents to determine net heating value according to §115.725(d)(2). Adopted §115.725(m)(2) allows an owner or operator the option to comply with the net heating value requirements by continuously monitoring and maintaining sufficient supplementary fuel flow to meet the minimum het heating value while assuming zero net heating value contribution from all vent gas streams sent to the flare. Finally, adopted §115.725(m)(3) is included to allow owners or operators of storage tanks with 95% or greater of an individual HRVOC to determine net heating value and HRVOC concentrations using process knowledge and engineering calculations in lieu of the on-line analyzer required in §115.725(d)(2). Flow rate monitoring according to §115.725(d)(1) is still required for sources that qualify for §115.725(m)(3).

Finally, the commission adopts §115.725(n), originally proposed as §115.725(k), to specify that when process information and engineering calculations are used to demonstrate compliance with §115.722(a)

- (d), the process information and engineering calculations must be submitted within 30 days upon written request by the executive director. This addition to §115.725 is necessary to ensure the commission has adequate information to determine compliance with the site-wide caps.

Section 115.726, Recordkeeping and Reporting Requirements

Section 115.726(a) is adopted with changes to the proposed rule. The commission revised the rule regarding the submission and approval of QAPs and test plans based on comments received. Adopted §115.726(a)(1) requires written QAPs to be developed, implemented, and followed, but the QAPs are not specifically required to be approved. Proposed §115.726(a)(1)(A) - (C) regarding dates for submitting the QAPs and the executive director's approval were not adopted because those provisions are no longer applicable. Adopted §115.726(a)(1)(A) requires that records of the QAP and any revisions must be maintained on site and §115.726(a)(1)(B) requires the QAP to be submitted within 30 days upon written request by the executive director. Any modifications or alternatives to the monitoring requirements or methods specified in the rule must still be approved by the executive director. Any such requests must be specifically approved, and default approval will not occur. The amendment to §115.726(a)(1) specifies that the paragraph applies to the monitoring requirements in §115.725(d). The amendment to §115.726(a)(2) specifies that the paragraph only applies to the testing requirements in §115.725(a). As noted previously in this preamble, the commission revised the rule regarding the test plans. Adopted §115.726(a)(2) requires written test plans to be developed, implemented, and followed. Test plans must be submitted at least 45 days prior to testing to the Houston regional office with notification of the test, but test plans are not specifically required to be approved. Proposed §115.726(a)(2)(A) - (C) regarding dates for submitting the test plans and the

executive director's approval were not adopted because those provisions are no longer applicable. Section 115.726(a)(2) also specifies the minimum content of the written test notification. Adopted §115.726(a)(2)(A) and (B) requires that the notification include the date of testing and the written test plan. Adopted §115.726(a)(2)(D) is relettered to §115.726(a)(2)(C) and revised to specify that the operational parameters required in adopted §115.725(a)(1) and (2) must be included in the test notification.

The commission adopts the amendment to §115.726(b) that includes more specific recordkeeping requirements of the vent testing and monitoring conducted as required by §115.725(a) and (b). Adopted §115.726(b)(1) - (3) includes the addition of recordkeeping requirements for the process parameter monitoring and monitoring plans required under adopted §115.725(a)(1), (2), and (4). Additionally, adopted §115.726(b)(4) - (7) provides more specific recordkeeping requirements for vent gas streams monitored using a continuous emission monitoring system in accordance with §115.725(b)(1), and for vent gas streams for which alternatives to testing have been allowed under §115.726(b)(2).

The amendment reletters §115.726(c), relating to recordkeeping requirements for flares monitored in accordance with §115.725, to §115.726(d). Adopted §115.726(c) includes recordkeeping requirements for affected PRVs monitored in accordance with the new provisions in §115.725(c). The additional recordkeeping requirements include records of the date, time, duration, volumetric flow rate, and speciated and total HRVOC emissions for each pressure relief event. The recordkeeping requirements for affected PRVs include records of the parameters monitored in accordance with §115.725(c)(1), all

process information, data, and calculations used to determine flow and emission data as specified in §115.725(c)(2), and the monitoring plans required under §115.725(c)(3).

The commission adopts the amendment to §115.726(d), which was relettered from §115.726(c), that specifies that the recordkeeping requirements are for flares monitored in accordance with §115.725. The amendment to §115.726(d)(4), which was renumbered from §115.726(c)(4), specifies that the records maintained for the calculated net heating values and exit velocities must be recorded on a 15-minute average basis rather than instantaneous values.

The commission adopts §115.726(d)(5) that identifies recordkeeping requirements specific to flares used solely for loading operations under §115.725(e), in addition to the general flare recordkeeping requirements in §115.726(d)(1) - (4). Section 115.726(d)(4) was revised based on comments received to specify that records must be maintained of each one-hour block average net heating value and exit velocity instead of each 15 minute average. The new language in §115.726(d)(5) incorporates recordkeeping requirements moved from §115.725(e)(1)(B) and the requirement in §115.726(d)(5)(A) requires the size of vessel being loading instead of the type of vessel. Based on comments received, §115.726(d)(5)(A) is revised to specify that records of the nominal size of the vessel must be maintained. Adopted §115.726(d)(5)(C) was revised based on comments to specify that only records of compounds loaded at concentrations greater than 1% by weight are required.

The commission adopts §115.726(d)(6) that identifies recordkeeping requirements specific to flares used solely for scheduled or unscheduled startup, shutdown, and maintenance activities under §115.725(f), in

addition to the general flare recordkeeping requirements in §115.726(d)(1) - (4). Similarly, adopted §115.726(d)(7) identifies recordkeeping requirements specific to emergency flares subject to §115.725(g), in addition to the general flare recordkeeping requirements in §115.726(d)(1) - (4). Finally, adopted §115.726(d)(8) identifies recordkeeping requirements specific to flares subject to the requirements of §115.725(h) or (i), in addition to the general flare recordkeeping requirements in §115.726(d)(1) - (4). Based on comments received, §115.726(d)(6)(B), (7)(B), and (8)(B) is revised to specify that records of volumetric flow rate should be recorded in 15-minute block average periods, or portion thereof, for each flaring event. Section 115.726(d)(6)(B) is also revised to add the term "volumetric" to flow rate to be consistent with §115.726(d)(7)(B) and (8)(B).

The amendment to §115.726(d) includes §115.726(d)(9) to specify the recordkeeping requirements for flares used to control vent gases from metal alkyl processes subject to the monitoring requirements in §115.725(j). Section 115.726(d)(9)(A) specifies records for volumetric flow rate and §115.726(d)(9)(B) requires records for all process information, monitored data, and calculations used to determine net heating value and HRVOC emissions. Adopted §115.726(d)(9)(C) requires hourly records of parameter monitoring, if alternative parameter monitoring has been approved by the executive director.

Adopted §115.726(d)(10) is added to the recordkeeping requirements to specify that multi-purpose flares must maintain all applicable records required of the categories of flares for which the multi-purpose flare is in service.

The commission adopts the amendment that reletters §115.726(d), regarding records for exemptions, to §115.726(e), and specifies that the records correspond to the exemptions listed in §115.727(a) - (e). The amendment to §115.726(e)(1), which was renumbered from §115.726(d)(1), specifies that the records applied to vent gas streams that are routed to flares and that contain less than 5.0% by weight HRVOC, and to vent gas streams that are not routed to flares that do not exceed 100 ppm, by volume (ppmv) HRVOC. The amendment to §115.726(e)(3) corrects cross-references.

The commission adopts the amendment that reletters §115.726(f) to §115.726(i). Section 115.726(f) was adopted with changes based on comments received. Section 115.726(f) requires that an owner or operator claiming exemption under §115.727(e) to submit written notification no later than December 31, 2005, instead of the requirement to submit notification at least 15 days prior to permanently removing a flare from service as was in the proposed amendment.

The commission adopts the amendment that reletters §115.726(e) to §115.726(g). The amendment to §115.726(g) specifies that daily records are required to demonstrate compliance with the tons per calendar year emissions limits in §115.722(a) and (b). Furthermore, the amendment to §115.726(g)(2) includes PRVs in addition to all flares and vents subject to §115.725. Finally, the amendment deletes §115.726(g)(3), because this specific recordkeeping requirement is moved to §115.726(g)(2).

The commission adopts §115.726(h) that specifies the recordkeeping requirements to demonstrate compliance with the one-hour block emission limits in §115.722(c).

The commission adopts the amendment to §115.726(i), which is relettered from §115.726(f), to specify that records must be maintained on site.

The commission adopts §115.726(j), based on comments received, to specify recordkeeping requirements for owners or operators of affected flares, vent gas streams, or PRVs that either become exempt from the division or are reclassified as to the operational status or requirements of the division.

Section 115.727, Exemptions

The commission adopts the amendment to §115.727. Based on comments received, the amendment to §115.727(a) includes revising the term "account" to "site" to be consistent with terminology used in §115.722 and the cross-reference to the subsection in §115.722 to specify that the exemption applies to §115.722(a) - (c). The amendment to §115.727(b)(1) corrects cross-references, and §115.727(b)(2) is adopted with a change to correct a cross-reference error in the proposed language. Additionally, §115.727(b) is adopted with changes to specify that the 5% HRVOC exemption is by weight. Additionally, the amendment deletes §115.727(c) that specified that emissions from scheduled maintenance, startup, and shutdown activities in compliance with §101.211 are exempt from the requirements of §115.722(a). The amendment also deletes §115.727(d) that specified that emissions from emissions events in compliance with 30 TAC §101.201 (Emissions Event Reporting and Recordkeeping Requirements) are exempt from the requirements of §115.722(a). The removal of the exemptions in §115.727(c) and (d) is necessary to better ensure an approvable SIP and the demonstration of attainment.

The commission adopts the amendment that reletters §115.727(e) to §115.727(c) and includes the addition of language to specify that the exemptions in §115.727(c) may apply to vent gas streams that are not routed to a flare. The amendment to relettered §115.727(c)(1) - (3) corrects cross-references. Adopted §115.727(c)(2) also adds language to provide exemption for vent gas streams with low volumetric rates equal to or less than 100 dry standard cubic feet per hour. This amendment provides flexibility to exempt vent gas streams that may exceed the 100 ppmv exemption level already provided, but that have minimal HRVOC emissions due to very low volumetric flow rate. The proposed amendment to §115.727(c)(2) specified that the 5% limit for the total number of vents claimed exempt under §115.727(c)(2) is based on the long-term cap limitation in §115.722(a) or (b). Adopted §115.727(c)(2) is revised based on comments received to specify that the maximum potential HRVOC emissions from all vent gas streams claimed under the exemption must be less than 0.5 tons per year. Finally, the amendment to §115.727(c)(3)(A) adds incinerators to list of the sources for which an exemption may be claimed, and specifies that the exemption for vent gas streams resulting from the combustion of less than 5.0% HRVOC is "by weight."

The commission adopts the amendment that reletters §115.727(f) to §115.727(d) and corrects a cross-reference error based on comments received.

The commission adopts §115.727(e) to specify that any flares that will be permanently out of service by April 1, 2006, are exempt from the requirements of the division except for the notification and recordkeeping requirements of §115.726(f). The new exemption will provide relief for owners or operators with flares that will be permanently taken out of service after the December 31, 2005,

compliance date to install continuous monitoring equipment, but prior to the April 1, 2006, compliance date for the site-wide caps in §115.722.

The commission adopts §115.727(f) to specify that all sites subject to this division that are located in the HGB ozone nonattainment area, excluding Harris County, are exempt from §115.722(b) and (c)(2), except as provided in §115.729(a)(3).

Section 115.729, Counties and Compliance Schedules

The commission adopts the amendment to §115.729(1) that adds a subsection (a), that now covers all three types of sources (flares, vent gas streams, and PRVs). The general compliance date remains December 31, 2005, with exceptions provided. Adopted §115.729(a)(1) establishes the compliance date of January 1, 2007, for facilities having to comply with §115.722(a) and (c)(2). Adopted §115.729(a)(2) establishes the compliance date of April 1, 2006, for facilities having to comply with §115.722(b) and (c)(1). The changes to adopted §115.729 remove the requirement to submit results of testing and monitoring to the Houston regional office and any applicable local air pollution control agency with jurisdiction, by no later than December 31, 2005. All results of testing and monitoring must be submitted upon request as specified in §115.726(i); therefore, authorized representatives of the executive director, the EPA, or an applicable local air pollution control agency with jurisdiction can request this information at any time.

The commission adopts §115.729(a)(3) that specifies that the exemption in §115.727(f) will no longer apply upon public notice of revocation by the commission. Upon revocation of §115.727(f), sites

subject to this division that are located in the HGB ozone nonattainment area, excluding Harris County, must comply with §115.729(a)(1) and (2) by the dates specified in those paragraphs, or within 180 days of public notice, whichever is later.

Adopted §115.729(b) also specifies that for vent gas streams, flares, and PRVs becoming subject to the requirements of the division after December 31, 2005, testing and monitoring must be conducted as soon as practicable, but no later than 60 days after being brought into HRVOC service.

Division 2, Cooling Towers

Section 115.760, Applicability and Cooling Tower Heat Exchanger System Definitions

The commission adopts the amendment to §115.760 that includes non-substantive language changes to §115.760(a) and (b) as well as definitions for "Jacketed reactor" in §115.760(b)(2) and for "Finite volume system" in §115.760(b)(3).

Section 115.761, Site-wide Cap

The commission adopts the amendment to §115.761 that allows sites the flexibility of compliance with the cooling tower heat exchange system control requirements of this division through compliance with the HRVOC emissions cap and trade program. The amendment to §115.761(a) changes the long-term site-wide cap strategy to a calendar year basis instead of the existing 24-hour rolling average basis, and states that the owner or operator of a site subject to the HRVOC cooling tower heat exchange system rules shall comply with the HRVOC emissions cap and trade program in Chapter 101, Subchapter H, Division 6. The amendment to §115.761(a) also removes the reference to the site-cap limits in the

tables of the SIP. The amendment reletters §115.761(b) to §115.761(d). Adopted §115.761(b) specifies that Harris County sites subject to this division or to Division 1, but that are exempt from the HRVOC emissions cap and trade program in accordance with §101.392(a), are limited to ten tons of HRVOC emissions per calendar year. Adopted §115.761(c) provides a short-term, not-to-exceed limit of 1,200 pounds of HRVOC per one-hour block, for Harris County sites subject to this division. The commission continues to evaluate the magnitude of the short-term limit, and the time period over which this short-term limit would be enforced. The commission solicited comment regarding the appropriate level for this short-term limit, and requested any supporting data regarding alternatives to the magnitude and time period. The comments received are addressed in the RESPONSE TO COMMENTS section of this preamble. Adopted §115.761(c)(3) addresses how exceedances of the short-term limits should be calculated to determine compliance with the long-term cap.

Section 115.764, Monitoring and Testing Requirements

The commission adopted the amendment to §115.764 that changes the section title from "Monitoring Requirements" to "Monitoring and Testing Requirements" to reflect the inclusion of the testing requirements formerly in §115.766. Merging the testing requirements of §115.766 with the monitoring requirements of §115.764 provides more consistency with the rule structure of Subchapter H, Division 6.

The commission adopts the amendment to §115.764(a) that removes the *de minimus* exemption for 100 ppm, by weight (ppmw) of HRVOC in the process side fluid. The 100 ppmw *de minimus* exemption

language is incorporated into the appropriate exemptions in §115.767, Exemptions (formerly §115.768), to better facilitate interpretation of the rule.

The amendment to §115.764(a)(2) includes the calibration requirements of the total strippable VOC monitoring system from §115.766(1). The amendment to calibration requirements of the total strippable VOC monitor in §115.764(a)(2) changes the allowable monitor drift from 3.0% to 5.0%. The proposed amendment would have removed the ten ppb, by weight (ppbw) detection limit requirement for the total strippable VOC monitor. However, based on comments received regarding the use of one-half the detection limit of the total strippable VOC monitoring, the adopted §115.764(a)(2) specifies a 25 ppbw detection limit capability for the monitor. This requirement allows the use of one-half the detection limit for calculation purposes when concentrations are below detectable levels, but still ensures the enforceability of the 50 ppbw action level specified in the rule. Finally, the amendment to §115.764(a)(2) corrects the citation to the air-stripping method in Appendix P of the *Texas Commission on Environmental Quality Sampling Procedures Manual* (January 2003).

The amendment to §115.764(a)(3) specifies the calculation methodology to determine the percent measurement data availability, provides consistency for the calculation of monitor uptime, and specifies that time needed for normal calibrations required by the rule is not counted as downtime. The amendment to §115.764(a)(4) and (5) replaces the references to §115.766 with the specific reference to the air-stripping method in Appendix P of the commission's sampling procedures manual. The adopted amendment to §115.764(a)(5) further specifies that if a sample triggers the requirement by having a concentration of total strippable VOC equal to or greater than 50 ppbw in the cooling tower water for

more than a one-hour block of time, then the daily sample can be collected beginning on the next calendar day.

The amendment to §115.764(a)(6) replaces the reference to "speciation of strippable VOC in paragraphs (4) and (5)" with "speciation of strippable HRVOC in paragraphs (4) and (5)" because the requirements of §115.764(a)(4) and (5) are for the speciation of HRVOC only. Additionally, the amendment removes the requirement to comply with Section 8.2 of 40 CFR Part 60, Appendix B, Performance Specification 9. While the initial testing required under Section 8.2 of Performance Specification 9 is recommended to help establish proper setup and operation of the analyzer, the commission considers the calibration requirements specified in the amendment to §115.764(a)(6) sufficient to quality assure the data generated by the analyzer, and that it is unnecessary to specifically require Section 8.2 in the rule. Furthermore, the amendment to §115.764(a)(6) changes the frequency of the multipoint calibration check procedure in Section 10.1 of Performance Specification 9 from monthly to quarterly, because quarterly multipoint calibrations checks provide sufficient quality assurance of analyzer linearity and accuracy. The amendment to §115.764(a)(6) also includes non-substantive language revisions to better facilitate interpretation of the monitoring requirements. The adopted §115.764(a)(6) also specifies that the sampling system for the continuous on-line monitoring system must be demonstrated equivalent to the air stripping apparatus used in Appendix P for determining strippable HRVOC concentrations in the water as specified in §115.764(f). This change is necessary due to the changes in the rule regarding submission and approval of the monitoring QAPs. Finally, the amendment to §115.764(a)(6) specifies that periodic sampling during downtime of the continuous on-line analyzer will continue until the on-line analyzer is properly operating and within the

required performance specifications and specifies that this requirement is for out-of-order periods of 24 hours or greater. Adopted §115.764(a)(6)(A) and (B) provide further clarification regarding data collection and sampling during out-of-order periods.

The commission adopted the amendment to §115.764(b) that removes the *de minimus* exemption for 100 ppmw of HRVOC in the process side fluid. The 100 ppmw *de minimus* exemption language is incorporated into the appropriate exemptions provided in §115.767, which was formerly in §115.768, to better facilitate interpretation of the rule. The amendment to §115.764(b)(2) replaces the reference to §115.766 with the specific reference to the air-stripping method in Appendix P of the commission's sampling procedures manual.

The amendment to §115.764(b) now applies to not only cooling tower heat exchange systems with a design capacity to circulate less than 8,000 gallons per minute (gpm) of cooling water, but also jacketed reactor cooling tower heat exchange systems defined in §115.760(b). The amendment to §115.764(b)(3) specifies that the calculation methodology to determine the percent measurement data availability to provide consistency for the calculation of monitor uptime and specify that the time required for normal calibrations as required by the rule is not counted as downtime. The amendment to §115.764(b)(4) and (5) replaces references to §115.766 with specific references to the air-stripping method in Appendix P of the commission's sampling procedures manual. The amendment to §115.764(b)(5) specifies that additional sampling to determine total strippable VOC, speciated HRVOC, and total HRVOC must continue on a daily basis, beginning on the next calendar day, until the concentration of total strippable VOC drops below 50 ppbw.

The amendment to §115.764(b)(6) removes the reference to "speciation of strippable VOC" and replaces the reference with "speciation of strippable HRVOC" because the requirements of §115.764(b)(4) and (5) are for speciation of HRVOC only. Additionally, the amendment removes the requirement to comply with Section 8.2 of 40 CFR Part 60, Appendix B, Performance Specification 9. While the initial testing required under Section 8.2 of Performance Specification 9 is recommended to help establish proper setup and operation of the analyzer, the commission considers the calibration requirements specified in the amendment to §115.764(b)(6) sufficient to quality assure the data generated by the analyzer. Furthermore, the amendment to §115.764(b)(6) changes the frequency of the multipoint calibration check procedure in Section 10.1 of 40 CFR Part 60, Appendix B, Performance Specification 9 from monthly to quarterly, because quarterly multipoint calibrations checks will provide sufficient quality assurance of analyzer linearity and accuracy. An additional amendment to §115.764(b)(6) includes non-substantive language revisions to better facilitate interpretation of the monitoring requirements. Adopted §115.764(b)(6) also specifies that the sampling system for the continuous on-line monitoring system must be demonstrated equivalent to the air stripping apparatus used in Appendix P for determining strippable HRVOC concentrations in the water as specified in §115.764(f). This change is necessary due to the changes in the rule regarding submission and approval of the monitoring QAPs. Finally, the amendment to §115.764(b)(6) specifies that periodic sampling during downtime of the continuous on-line analyzer will continue until the on-line analyzer is properly operating and within the required performance specifications and specifies that this requirement is for out-of-order periods of 24 hours or greater. Adopted §115.764(b)(6)(A) and (B) provide further clarification regarding data collection and sampling during out-of-order periods.

The commission adopted the amendment to §115.764(c) that incorporates language from the repealed testing requirements in §115.766. The amendment removes the ten ppbw minimum detection limit requirement for strippable HRVOC monitoring from §115.766(1). Removing the requirement provides more flexibility for affected owners or operators in the selection of on-line monitoring systems and laboratories for analysis of periodic samples. However, the requirements in adopted §115.766(a)(3) and (4) to use one-half the detection limit for HRVOC emission calculation purposes will encourage owners or operators to use a monitoring system or laboratory analysis with sufficient detection capability appropriate for the specific cooling tower size and the amount of site-wide caps for the site. As previously noted in this preamble, the proposed amendment would have also removed the ten ppbw detection limit requirement for the total strippable VOC monitoring. However, based on comments received, §115.764(a)(2) has been revised to specify that the continuous strippable VOC monitoring must be capable of achieving a minimum detection limit of 25 ppbw or less to allow using one-half the detection limit of the monitor for calculation purposes without adversely affecting the enforceability of the 50 ppbw action level.

The commission adopts the amendment to delete §115.764(d), regarding requirements to submit QAPs for the monitoring systems required by §115.764, and move the requirements for the QAPs to §115.766(i) in the recordkeeping and reporting requirements. Also, the amendment reletters §115.764(e) to §115.764(d) and replaces the reference to the testing requirements of §115.766 with the reference to the air-stripping method in Appendix P of the commission's sampling procedures manual.

The commission adopts the amendment that reletters §115.764(f), relating to alternatives to continuous flow monitoring, to §115.764(e), and corrects cross-references to correspond to other amendments to the division.

The commission adopts the amendment that reletters §115.764(g), relating to minor modifications and alternative monitoring, to §115.764(f), corrects cross-references, and specifies that the provisions for modifications or alternatives apply to testing as well as monitoring.

The commission adopts §115.764(g) to specify that alternative monitoring locations may be used for cooling tower heat exchanger systems. Adopted §115.764(g)(1) specifies the alternatives for cooling tower heat exchange systems in which a single cooling tower services both HRVOC and non-HRVOC process units, or that services multiple types of heat exchange systems. The amendment allows the owner or operator to monitor from locations that represent the flow and concentrations from HRVOC processes. Adopted §115.764(g)(2) specifies the alternative locations for monitoring flow rate may be used provided the location is representative to the total flow rate to the cooling tower.

The commission adopts §115.764(h) to provide owners and operators of cooling tower heat exchange systems with a finite volume of HRVOC and with the design capacity to circulate 8,000 gpm or greater of cooling water with options to be used in lieu of the requirements of §115.764(a).

Repeal of Section 115.766, Testing Requirements

The commission adopts the repeal of §115.766 to incorporate specific testing requirements of §115.766 into the appropriate subsections in §115.764 to establish more consistency with Division 2 and to better facilitate interpretation of the requirements.

Repeal of Section 115.767, Recordkeeping Requirements

The commission adopts the repeal of §115.767 to incorporate specific recordkeeping requirements of §115.767 into new §115.766, Recordkeeping and Reporting Requirements, to establish more consistency with Division 1.

Section 115.766, Recordkeeping and Reporting Requirements

The commission adopts new §115.766 that incorporates the recordkeeping and reporting requirements of §115.767. New §115.766(a)(2) corrects cross-references in existing §115.767(a)(2).

New §115.766(a)(3) removes the requirement to maintain hourly records documenting the pound per hour mass emission rate for total strippable VOC in existing §115.767(a)(3). The testing and monitoring requirements in §115.764 for total strippable VOC, when applicable, do not require determining the mass emission rate of total strippable VOC. The recordkeeping requirements for total strippable VOC concentration are addressed in new §115.766(a)(4). New §115.766(a)(3) also corrects cross-references and incorporates recordkeeping requirements for alternative monitoring provided for in §115.764(a)(6) or (b)(6). New §115.766(a)(3) requires owners or operators to use one-half the minimum detection limits for HRVOC emission calculations when concentrations are below detection.

New §115.766(a)(4) specifies recordkeeping requirements for the concentration of total strippable VOC in the cooling water for cooling tower heat exchange systems monitored in accordance with §115.764(a)(2), (b)(2), (d), or (h). Proposed §115.766(a)(4) required owners or operators to use the full minimum detection limit for total strippable VOC when concentrations are below detection. However, based on comments received, adopted §115.766(a)(4) allows using one-half the detection limit of the monitor for calculation purposes. As previously noted in this preamble, adopted §115.764(a)(2) specifies that the total strippable VOC monitor must have a minimum detection limit of 25 ppbw or less to ensure the enforceability of the 50 ppbw action level. Removing the ten ppb detection limit requirement provides more flexibility for affected owners or operators in the selection of on-line monitoring systems and laboratories for analysis of periodic samples. However, the requirements to use one-half the detection limit for HRVOC emission calculation purposes will encourage owners or operators to use a monitoring system or laboratory analysis with sufficient detection capability appropriate for the specific size of cooling tower and the amount of the site-wide caps for the site.

Adopted §115.766 deletes the requirements in existing §115.767(a)(5) regarding hourly recordkeeping requirements for the 24-hour rolling average HRVOC emissions in relation to the site-wide cap. Provisions for recordkeeping to demonstrate compliance with the site-wide caps specified in §115.761 are provided in new §115.766(g) and (h). The adoption of this section also deletes the requirements in existing §115.766(a)(6) regarding recordkeeping requirements for alternative monitoring performed in accordance with §115.764(a)(6) or (b)(6). As previously noted, new §115.766(a)(3) incorporates these recordkeeping requirements.

New §115.766(a)(5) specifies that the owner or operator must maintain hourly records of the cooling water flow rate. New §115.766(a)(6) removes the term "hourly" from the existing language of §115.767(a)(4) to specify that the owner or operator must maintain records on a weekly basis and revises §115.766(a)(6) to clarify that the recordkeeping requirements for corrective actions is for periods of monitor downtime.

Adopted §115.766(a)(7) specifies the recordkeeping requirements for cooling tower heat exchange systems with finite volume systems in accordance with §115.764(h).

Adopted §115.766(b) corrects cross-references to the existing language moved from §115.767(b) and is revised to address changes made to §115.767 regarding exemptions for cooling tower heat exchange systems with intervening fluids. The new §115.767(c) has the same language as in repealed §115.767(c). New §115.766(d) includes language from repealed §115.767(d)(1) and (2) and reflects new §115.766(a) that incorporates recordkeeping requirements for testing performed in accordance with §115.764(d) and better facilitates interpretation of the recordkeeping requirements.

New §115.766(e) and (f) incorporates the language in repealed §116.767(e) and (f) and corrects cross-references. Based on comments received, adopted new §115.766(e)(1) and (f)(2) specify that if manufacturer's certified information is unavailable, then pump performance information that is generated by a qualified independent third-party organization using a code or standard of practice acceptable to the executive director may be used.

New §115.766(g) and (h) specifies recordkeeping requirements to demonstrate compliance with §115.761, and specifies recordkeeping requirements to demonstrate compliance with tons per calendar year emission limits in §115.761(a) and (b). New §115.766(h) specifies recordkeeping requirements to demonstrate compliance with pound per hour emission limits in §115.761(c).

Finally, §115.766(i) is adopted with changes to the proposed rule. The commission revised the rule regarding the submission and approval of QAPs based on comments received. Adopted §115.766(i) requires written QAPs to be developed, implemented, and followed, but the QAPs are not specifically required to be approved. Proposed §115.766(i)(1), (2), and (3) regarding dates for submitting the QAPs and the executive director's approval were not adopted because those provisions are no longer applicable. Adopted §115.766(i)(1) requires that records of the QAP and any revisions must be maintained on site and §115.766(i)(2) requires the QAP to be submitted within 30 days upon written request by the executive director. Any modifications or alternatives to the monitoring requirements or methods specified in the rule must still be approved by the executive director. Any such requests must be specifically approved, and default approval will not occur.

The amendment to move the QAP provisions to §115.766(i) also deletes the requirement that previously existed in §115.764(d)(2) to define each compound that could potentially leak through the heat exchanger. Finally, new §115.766(j) specifies that an owner or operator claiming exemption under §115.767(4) shall submit written notification no later than December 31, 2005.

Section 115.767, Exemptions

The commission adopts the repeal of §115.768 to incorporate exemptions of §115.768 into the appropriate subsections in adopted new §115.767. The move of the exemptions corrects a consistency problem with the section numbering in Division 1. New §115.767(1) and (2) specify that the exemptions apply to heat exchangers with greater than 100 ppmw HRVOC in the process side fluid. Also, the commission deletes the exemption in repealed §115.768(4), because emissions events are not exempt from §115.761 in this adoption. New §115.767(4) specifies that cooling tower heat exchange systems that will be permanently out of service by April 1, 2006, are exempt from the requirements of the division, except for the notification and recordkeeping requirements of §115.766(j). The new exemption provides relief for owners or operators with cooling tower heat exchange systems that will be permanently taken out of service after the December 31, 2005, compliance date for installation of continuous monitoring equipment, but prior to the April 1, 2006, compliance date for the site-wide caps in §115.761.

Adopted new §115.767(5) provides an exemption for cooling tower heat exchange system with an intervening cooling fluid containing less than 100 ppmw of HRVOC between the process and the cooling water.

The commission adopts new §115.767(6) to specify that all sites subject to this division that are located in the HGB ozone nonattainment area, excluding Harris County, are exempt from §115.761(b) and (c)(2), except as provided in §115.769(a)(3).

Section 115.769, Counties and Compliance Schedules

The commission adopts the amendment to §115.769 that updates cross-references and adds §115.769(b) to address the compliance date requirements for cooling tower heat exchange systems that become subject to the requirements of the division after December 31, 2005. Furthermore, §115.769 has been revised to add §115.769(a)(1) that establishes the compliance date of January 1, 2007, for facilities having to comply with §115.761(a) and (c)(2). Adopted §115.769(a)(2) establishes the compliance date of April 1, 2006, for facilities having to comply with §115.761(b) and (c)(1).

The commission adopts§115.769(a)(3) that specifies the exemption in §115.767(6) will no longer apply upon public notice of revocation by the commission. Upon revocation of §115.767(6), sites subject to this division that are located in the HGB ozone nonattainment area, excluding Harris County, must comply with §115.769(a)(1) and (2) by the dates specified in those paragraphs, or within 180 days of public notice, whichever is later.

Division 3, Fugitive Emissions

Section 115.780, Applicability

The commission adopts the amendment to §115.780 that designates the first paragraph as subsection (a) and adds §115.780(b) to specify that emission reduction credits or discrete emission reduction credits may not be used in order to demonstrate compliance with the HRVOC fugitive emissions rules.

Section 115.781, General Monitoring and Inspection Requirements

The commission adopts the amendment to §115.781(b)(1) to correct a cross-reference specifying that the exemptions of §115.357(1) - (12) are not applicable to this division. The term “immediately” is

added to §115.781(b)(7)(A), to specify that if requested by staff of the Houston regional office or any air pollution control agency having jurisdiction, the owner or operator shall provide the site's unsafe-to-monitor list within that business day. The reference to quarterly monitoring in §115.781(b)(7)(A) has been deleted to clarify that the monitoring exclusion for unsafe to monitor components is not restricted to components that are subject to quarterly monitoring. The amendment to §115.781(b)(7)(B) specifies that the "difficult-to-monitor components" terminology includes components that would require a permit for confined space entry as defined in 29 CFR §1910.146, concerning permit-required confined spaces (December 1, 1998 issue of the Federal Register).

The amendment to §115.781(b)(8) and (e) specifies that all PRVs in gaseous service that are not equipped with a rupture disk upstream of the relief valve with a pressure-sensing device between the rupture disk and the PRV must be monitored with a hydrocarbon gas analyzer for fugitive leaks. Section 115.781(b)(8) specifies that the body of the PRV must be monitored for fugitives on a quarterly basis. The amendment to §115.781(e) specifies that the vent from the PRV must be monitored within 24 hours following actuation if the vent is not considered to be unsafe-to-monitor or difficult-to-monitor. The purpose of this monitoring is to ensure that the relief mechanism has properly reseated. However, if the emissions from the PRV are released to a control device, the vent monitoring is not required. This requirement does not supersede any monitoring requirements found in §115.725. The requirement in §115.781(e) that the results of monitoring any PRV that has vented to the atmosphere within 24 hours after actuation be reported in accordance with §115.786 has been changed to specify that the results be recorded. Section 115.786 does not require that the results be reported.

Adopted §115.781(g) adds language regarding data collection that is similar to data collection language in 30 TAC §115.354(10) in Subchapter D. The language is being removed from §115.354(10) in concurrent rulemaking because it is more appropriately applied to components in HRVOC service. The wording of the rule has been changed to specify that the owner or operator must transfer electronic data to the database within seven days after the monitoring, so that the time frame for recording electronic data is the same as that allowed for transferring manually recorded data. The reference to the database required by §115.356 has been changed to "the paper or electronic database" because a database is not required by §115.356. The requirement in proposed §115.786(g)(1) to determine an acceptable rate of monitoring and to have a documented auditing process in place has been deleted. Determining an acceptable rate for recording data for all situations is not feasible due to the variety of factors that affect the rate of monitoring. The reference to an auditing process is duplicative of the audit requirements in §115.788. The reference in §115.786(g)(2) to recording data for audio, visual, and olfactory inspections has been deleted because these inspections are not required by the HRVOC fugitive rules. Components such as connectors that are required to be inspected in the general fugitive rules are required to be monitored instead under the HRVOC rules.

Section 115.782, Procedures and Schedule for Leak Repair and Follow-up

The commission adopts the amendment to §115.782(c) to specify that components on the delay of repair (DOR) list, which would require a shutdown to correct, must be repaired at the next scheduled process unit shutdown. The amendment to §115.782(c)(1)(B)(i) requires documentation of calculations in §115.782(c)(1)(B)(i) - (iii), and renumbers clause (ii) as clause (iv). The adopted language in §115.782(c)(1)(B)(i) - (iii) is similar to language that is being removed in concurrent rulemaking from,

§115.352(2)(A)(i) - (iii) in Subchapter D. The proposed language has been changed to specify that the calculation of emissions from nonrepairable leaking components for comparison to emissions that would be generated by a shutdown to repair the leaking components is to be determined on a daily basis. The proposed requirement would have made the comparison on a cumulative basis from the time the component was determined to be leaking until the next scheduled process shutdown. This comparison could trigger a shutdown that would generate VOC emissions over a one- or two-day period to eliminate emissions that have accumulated over a period of time, and could actually increase the potential for ozone formation. The adopted requirements also specify a *de minimis* level of 500 pounds to trigger a shutdown. Some facilities have successfully minimized emissions from shutdown, clearing, and restart of process units so that a nonrepairable leaking component at a low leak rate could trigger a shutdown, thus putting these units at a disadvantage over units that have not minimized shutdown related emissions to the same extent. Furthermore, §115.782(c)(1)(B)(i)(II) has been revised to delete the requirement for inspection of leaking components in heavy liquid service, because this should not apply to any of the compounds that are defined as HRVOCs. Amended §115.782(c)(1)(B)(iii) has been revised to replace the word "valve" with "component." This clause allows facilities to exclude the emissions from nonrepairable leaking components from the total daily mass emissions comparison required by §115.782(c)(1)(B)(ii) if they use extraordinary means to attempt to repair the components. This exclusion applies to nonrepairable leaking components other than valves. According to §115.782(c)(2), extraordinary efforts are required for valves that cannot be repaired by the normal methods without a process unit shutdown unless there would be a safety, mechanical, or major environmental concern as specified in §115.782(c)(2)(A)(ii) posed by using extraordinary efforts. The adopted amendment adds to this clause a requirement that emissions from these nonrepairable leaking

valves for which extraordinary efforts are not used must be included in the calculation of total daily emissions from nonrepairable leaking components.

The amendment to §115.782(c)(2)(A)(i) specifies that extraordinary efforts for nonrepairable leaking valves must be taken within 14 or 30 calendar days after the leak is found (depending on the amount of the leak detected), instead of seven or 15 days of the valve being placed on the shutdown list. The amendment does not allow any additional days nor reduce the number of days, but simply revises the language to a time frame that the owner or operator will more readily know from the information already in the databases.

Section 115.783, Equipment Standards

The commission adopts the amendment to §115.783(2) deleting the language that recovery devices, flares, and other control devices that are used to control fugitive emissions must obtain a set control efficiency. This language is deleted because the emissions from these types of sources are already being controlled or will be controlled by Subchapter B, Division 2 rules or by the adopted Subchapter H, Division 1 rules. The amendment to §115.783(3) deletes the requirement that a PRV must be equipped with a pressure sensing device. This language is deleted because the emissions from these types of sources will be controlled by adopted Subchapter H, Division 1. The amendment to §115.783 renumbers paragraphs (4) - (6) as paragraphs (3) - (5).

Repeal of §115.785, Testing Requirements

The commission adopts the repeal of §115.785 because the section established a stack testing method for sources that control fugitive emissions. These sources are controlled under adopted Subchapter H, Division 1; therefore, these additional requirements are no longer necessary in the fugitive rules.

Section 115.786, Recordkeeping Requirements

The commission adopts the amendment to §115.786(b)(3)(D) to specify that the flow through the bypass line is an estimated flow rate. The amendment to §115.786(c) specifies the exact date that specific records must be submitted to the Houston regional office and any local air pollution control agency having jurisdiction. The adopted amendment also specifies the reporting period covered by these reports. The adopted amendment also changes paragraph (4) to require records of the date of the last scheduled process unit shutdown instead of the last process unit turnaround.

The amendment to §115.786(d) and (e) specifies that the type of records used to identify exempt components is the same as the type of records listed in §115.781. Adopted §115.786(d)(1) and (2) adds similar language that is being removed from Subchapter D, §115.352(2)(F)(ix) and §115.356(3) in concurrent rulemaking. The adopted amendment to §115.786(d)(2) specifies that the records for process units with leaking components are to be updated within five business days instead of daily to allow time to perform the calculation of emissions from the nonrepairable leaking component. The amendment to §115.786 also reletters subsection (e) to subsection (f).

Section 115.787, Exemptions

The commission adopts the amendment to §115.787(a) to correct a citation from §115.786(d) and (e) to §115.786(e) and (f). The amendment to §115.787(b) also corrects a citation from §115.783(4) to §115.783(3).

The amendment to §115.787(c)(4) changes the language “plant sites covered by a single account number” to “any site as defined in 30 TAC §122.10 of this title (relating to General Definitions).” The amendment to §115.787(c)(6) and (7) replaces the phrase "which are in compliance with” with the phrase "that meet the requirements of" to avoid the incorrect interpretation that this paragraph requires direct compliance with the selected provisions of 40 CFR §63.166 or §63.169.

The amendment to §115.787(e) clarifies that if a PRV has a rupture disk located upstream of the PRV then the valve is exempt from the requirements of §115.781(b)(8) provided the PRV complies with §115.725(c) and the rupture disk is replaced no later than 30 calendar days after a failure is detected.

Amended §115.787(f) corrects a citation from §115.352(4) to §115.783(5).

Adopted §115.787(g) exempts any site with less than 100 components in HRVOC service from the third-party audit requirements of §115.788.

Section 115.788, Audit Provisions

The commission adopts the amendment to §115.788(a) that changes the time frame and number of process units for which the independent third-party audits must be conducted. The amendment changes

the requirement to conduct an audit of all process units every two years to a requirement to conduct an audit of the site at least once per calendar year. It is the commission's intent that the fugitive audit program be used to identify any patterns that are indicative of failure to properly implement Test Method 21. If the number of valves sampled is truly random throughout the site this should allow the independent third-party organization to identify any potential patterns showing failure to properly implement Test Method 21, without being overly burdensome on the company. To implement this audit program properly, it is important that the pool of components to be selected from is one that contains components that are monitored on a quarterly basis, so an accurate leaker rate can be determined. Because valves are the most numerous component at a site behind connectors, and valves typically have a higher leaker rate than connectors, the commission determined that for the field survey, the component pool will consist of all the valves at the site in HRVOC service that are not exempted from quarterly monitoring by §115.787 and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists. It is also the commission's intent that the random sampling of valves must be such that each valve has an equal chance of being selected from the total number of valves being sampled.

The amendment to §115.788(a)(1) requires the independent third-party organization to verify that all applicable valves (e.g., all valves included in the random sampling) are properly tagged in accordance with §115.782(a). The amendment to §115.788(a)(1)(B) and (d)(2) removes the requirement for the audit to include a list of components that should have been monitored but were not on the list to be monitored. The reasoning for the amendment is that the existing language would have required the company conducting the audit to completely inspect the entire process unit, including, but not limited

to, steam lines, water lines, and waste lines. The commission considers this requirement to be cost prohibitive for the results that would have been obtained.

The amendment to §115.788(a)(2) specifies that an independent third-party organization must perform a field survey to determine the representative percentage of leaking components at the site using a random sampling of the population of components of interest. The amendment to §115.788(a)(2)(A) also specifies that the field survey must be started after the usual monitoring service has completed its monitoring of the valve's population of interest, and that the field survey conducted by the auditing company must be completed by the end of the next monitoring period (i.e., quarterly) in which the usual monitoring service conducted its monitoring.

The amendment to §115.788(a)(2)(B) replaces the graph in Figure: 30 TAC §115.788(a)(2)(B) with Table 1. The graph used to determine field survey sample size in this section was based on a sampling strategy using binomial sampling distribution. Use of the binomial distribution is conservative in this sampling scheme. Sampling components from a limited population of components is an instance of sampling without replacement from a finite population, and because the number of leakers is generally very small in number in comparison with the total count of members of the population (hence, the population leaker rate is usually far less than 5%), the most appropriate model upon which to base the sampling is from a hypergeometric distribution. Using the hypergeometric distribution rather than the binomial distribution has the added benefit of significantly reducing the size of sample that must be taken while still permitting the establishment of error bounds on the sample average leaker rate. The adopted table is used in place of the original graph in Figure 30 TAC §115.788(a)(2)(B). Proper use of

this table will result in the minimum size of sample that must be taken from the population of interest. Components sampled must be part of that same population. The table is generated by calculating sample size based on the sample number of leakers following a hypergeometric distribution, Type I error rate held at 0.05 or less, Type II error rate held to 0.20 or less, when the minimum difference between the company's claimed leaker rate and the true population leaker rate is at least 2%.

The amendment to §115.788(a)(2)(C) provides an alternative to the table provided in §115.788(a)(2)(B). In determining the required sampling size the company must follow a hypergeometric distribution, which characterizes sampling from a finite population without replacement. Determining the required sample size to test the reported leaker rate can be accomplished by using commercially-available statistical software. Establishing sample size is dependent upon three things: 1) The Type I error rate; 2) the Type II error rate; and 3) minimum difference for the statistical test. A Type I error occurs when the company reported percentage of leakers accurately reflects the true proportion of leakers, yet the test falsely indicates that the true percentage of leakers is greater than reported. A Type II error occurs when the true leaker rate is in fact greater than the reported rate, but the test fails to so indicate. The minimum difference for a statistical test is the level of the parameter of interest, in this case, the average population leaker rate, beyond which the commission would find reason to reject the null hypothesis. In this case, the statistical test null hypothesis to which these error rates apply is that the true population leaker rate is the company determined population leaker rate (based on determinations made in previous monitoring cycles) and the alternative hypothesis is that the true population leaker rate is at least two percentage points greater than the company determined population leaker rate. Therefore, the minimum difference must be at least two percentage points or more greater than the

company claimed population leaker rate. The sample size must be chosen according to the following three specifications: 1) Type I error rate less than or equal to 0.05; 2) Type II error rate less than or equal to 0.20; and 3) minimum difference between the company's claimed leaker rate and the true population leaker rate is at least 2%. Adopted §115.788(a)(2)(D) specifies that the independent third-party organization must follow Test Method 21 in 40 CFR Part 60, Appendix A, while conducting the field survey.

The amendment to §115.788(a)(3) specifies that the data generated by monitoring technicians must be reviewed by the independent third-party organization. The amendment to §115.788 also consolidates the language in §115.788(a)(3)(A) and (B), and moves the language in §115.788(d)(4) to §115.788(a)(3)(A). The amendment to §115.788(a)(3)(B) requires that the independent third-party organization review the records to verify proper calibration in accordance with Test Method 21. Section 115.788(a)(3)(C) has been combined with §115.788(a)(3)(A), thereby providing guidance to the independent third-party organization when determining if the company is implementing Test Method 21 properly. The commission also deleted the term "abnormal." The amendment deletes §115.788(a)(3)(D) because the retention of field data from a datalogger is not specifically required.

The amendment to §115.788(b) makes a grammatical correction to remove the term "means" and replace it with the term "is."

The amendment to §115.788(c) removes the requirement to provide the agency written notification that the audit has been completed, because the owner or operator is already required to provide the audit

results to the Houston regional office within 30 days after audit completion. However, the requirement to verbally notify the Houston region and any local air pollution control agency having jurisdiction must still be provided at least 30 days prior to the start date of the audit.

The amendment to §115.788(d) specifies that the audit report should be submitted to the Houston regional office, instead of the more general description of the Office of Compliance and Enforcement or appropriate regional office. The amendment to §115.788(d)(1) specifies that the list concerning the valves that were not tagged but should have been, is based on the requirements of §115.782(a). The amendment to §115.788(d) renumbers paragraphs (3) and (4) to paragraphs (2) and (5), and the amendment to renumbered §115.788(d)(2) specifies that the percentage of leaking valves should be identified during the field survey. The amendment also specifies that a detailed description of the sampling scheme used to ensure that a random sample of valves was selected so that each valve had an equal chance of being selected from the total number of valves being sampled must be reported. Adopted §115.788(d)(3) specifies that the company's total number of valves, number of leakers, and percentage of leaking valves must be reported. Section 115.788(d)(4) specifies that the report must include the methodology used to select the field survey sample size, and if the alternative provided in §115.788(a)(2)(C) is used, documentation must include the actual Type I and Type II error rates associated with the sample size used and a detailed description of the methodology used to calculate the sample size. Finally, the amendment to renumbered §115.788(d)(5) deletes subparagraphs (A) - (C) and references the categories specified in §115.788(a)(3)(A) and (B).

Adopted §115.788(e) requires the owner or operator to submit a corrective action plan with the audit report if the results of the audit indicate deficiencies in the implementation of Test Method 21. Subsections (e) and (f) are also relettered as subsections (f) and (g).

Finally, adopted §115.788(h) specifies that the executive director may require additional corrective actions.

Section 115.789, Counties and Compliance Schedules

The commission adopts the amendment to §115.789(2) to clarify the compliance schedule for the requirements of §115.782. The commission adopts the amendment to §115.789(3) to specify that the initial third-party audits required in §115.788 must be completed as soon as practicable, but no later than December 31, 2005. The deletion of the current §115.789(4) removes the compliance schedules for testing requirements, because the corresponding testing requirements in §115.785 are being repealed. The amendment to §115.789 renumbers paragraphs (5) and (6) to paragraphs (4) and (5).

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the rulemaking action in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the action meets the definition of a “major environmental rule” as defined in that statute. A “major environmental rule” is 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 and revisions to the SIP improve implementation of Chapter 115 by adding requirements to achieve reductions in HRVOC emissions in the HGB area. In this rulemaking, the commission developed a dual approach that addresses variable short-term emission through a not-to-exceed hourly emission limit, and that addresses steady-state and routine emissions through an annual cap. The annual HRVOC cap and fugitive emission rules will reduce the overall reactivity in the airshed by removing the compounds that are most prevalent and most likely to react rapidly enough to cause one-hour ozone exceedances. The annual HRVOC cap allowances would be distributed and enforced through an HRVOC emissions cap and trade program under Chapter 101, Subchapter H, new Division 6 being adopted in concurrent rulemaking. The rules are intended to protect the environment and reduce risks to human health and safety from environmental exposure and may have adverse effects on owners and operators of certain sources, in particular fugitives, flares, process vents, and cooling towers. Many of these sources are owned or operated by petrochemical plants, refineries, and other industrial, commercial, or institutional groups, and each group could be considered a sector of the economy. This determination is based on the analysis provided in the proposal preamble, including the discussion in the PUBLIC BENEFITS AND COSTS section of the proposal. The remaining amendments in this rulemaking are intended to update cross-references, add flexibility, and delete obsolete language. These amendments are not expected to 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 does not meet any of the four applicability criteria of a “major environmental rule” as defined in the Texas Government Code. Texas Government Code, §2001.0225 applies only to

a major environmental rule the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

The rulemaking implements requirements of 42 USC, §7410, which requires states to adopt a SIP that provides for "implementation, maintenance, and enforcement" of the primary NAAQS in each air quality control region of the state. While 42 USC, §7410 does not require specific programs, methods, or reductions in order to meet the standard, SIPs must include "enforceable emission limitations and other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance as may be necessary or appropriate to meet the applicable requirements of this chapter," (meaning 42 USC, Chapter 85, Air Pollution Prevention and Control). It is true that the FCAA does require some specific measures for SIP purposes, such as the inspection and maintenance program, but those programs are the exception, not the rule, in the SIP structure of 42 USC, §7410. The provisions of the FCAA recognize that states are in the best position to determine what programs and controls are necessary or appropriate in order to meet the NAAQS. This flexibility allows states, affected industry, and the public, to collaborate on the best methods to attain the NAAQS for the specific regions in the state. Even though the FCAA allows states to develop their own programs, this flexibility does not relieve a state from developing a program that meets the requirements of 42 USC, §7410. Thus, while specific measures

are not generally required, the emission reductions are required. States are not free to ignore the requirements of 42 USC, §7410, and must develop programs to assure that the nonattainment areas of the state will be brought into attainment on schedule.

The requirement to provide a fiscal analysis of proposed regulations in the Texas Government Code was amended by Senate Bill (SB) 633 during the 75th Legislature, 1997. The intent of SB 633 was to require agencies to conduct a regulatory impact analysis (RIA) of extraordinary rules. These are identified in the statutory language as major environmental rules that will have a material adverse impact and will exceed a requirement of state law, federal law, or a delegated federal program, or are adopted solely under the general powers of the agency. With the understanding that this requirement would seldom apply, the commission provided a cost estimate for SB 633 that concluded "based on an assessment of rules adopted by the agency in the past, it is not anticipated that the bill will have significant fiscal implications for the agency due to its limited application." The commission also noted that the number of rules that would require assessment under the provisions of the bill was not large. This conclusion was based, in part, on the criteria set forth in the bill that exempted proposed rules from the full analysis unless the rule was a major environmental rule that exceeds a federal law. As discussed earlier in this preamble, 42 USC, §7410 does not require specific programs, methods, or reductions in order to meet the NAAQS; thus, states must develop programs for each nonattainment area to ensure that area will meet the attainment deadlines. Because of the ongoing need to address nonattainment issues, the commission routinely proposes and adopts SIP rules. The legislature is presumed to understand this federal scheme. If each rule proposed for inclusion in the SIP was considered to be a major environmental rule that exceeds federal law, then every SIP rule would require

the full RIA contemplated by SB 633. This conclusion is inconsistent with the conclusions reached by the commission in its cost estimate and by the Legislative Budget Board in its fiscal notes. Because the legislature is presumed to understand the fiscal impacts of the bills it passes, and that presumption is based on information provided by state agencies and the Legislative Budget Board, the commission believes that the intent of SB 633 was only to require the full RIA for rules that are extraordinary in nature. While the SIP rules will have a broad impact, that impact is no greater than is necessary or appropriate to meet the requirements of 42 USC, §7410. For these reasons, rules adopted for inclusion in the SIP fall under the exception in Texas Government Code, §2001.0225(a), because they are specifically required by federal law.

In addition, 42 USC, §7502(a)(2), requires attainment as expeditiously as practicable, and 42 USC, §7511a(d), requires states to submit ozone attainment demonstration SIPs for severe one-hour ozone nonattainment areas such as the HGB area. As discussed earlier in this preamble, this dual approach addresses variable short-term emissions as well as steady-state and routine industrial VOC emissions to address some of the elevated ozone levels observed in the HGB area; these controls will result in reductions in ozone formation in the HGB area and help bring the HGB area into compliance with the air quality standards established under federal law as NAAQS for ozone. Compliance with these rules will reduce ambient HRVOC and ozone in the HGB area and the commission is submitting these to the EPA as one of several measures in the federally approved SIP. Through its 2004 revision to the HGB SIP, the commission is fulfilling its outstanding one-hour ozone SIP obligations and beginning to plan for the upcoming eight-hour ozone standard. This rulemaking is part of the HGB SIP revision that demonstrates attainment of the one-hour ozone standard in the HGB area in 2007, and provides

preliminary analysis of the HGB area in terms of the eight-hour ozone standard in 2007 and 2010. Therefore, the adopted rulemaking is a necessary component of and consistent with the HGB area ozone attainment demonstration SIP required by 42 USC, §7410.

The commission has consistently applied this construction to its rules since this statute was enacted in 1997. Since that time, the legislature has revised the Texas Government Code but left this provision substantially unamended. The commission presumes that "when an agency interpretation is in effect at the time the legislature amends the laws without making substantial change in the statute, the legislature is deemed to have accepted the agency's interpretation." *Central Power & Light Co. v. Sharp*, 919 S.W.2d 485, 489 (Tex. App.–Austin 1995), *writ denied with per curiam opinion respecting another issue*, 960 S.W.2d 617 (Tex. 1997); *Bullock v. Marathon Oil Co.*, 798 S.W.2d 353, 357 (Tex. App.–Austin 1990), *no writ*. *Cf. Humble Oil & Refining Co. v. Calvert*, 414 S.W.2d 172 (Tex. 1967); *Sharp v. House of Lloyd, Inc.*, 815 S.W.2d 245 (Tex. 1991); *Southwestern Life Ins. Co. v. Montemayor*, 24 S.W.3d 581 (Tex. App.–Austin 2000), *pet. denied*; and *Coastal Indust. Water Auth. v. Trinity Portland Cement Div.*, 563 S.W.2d 916 (Tex. 1978).

As discussed earlier in this preamble, this rulemaking action implements requirements of 42 USC, §7410. There is no contract or delegation agreement that covers the topic that is the subject of this action. Therefore, the rulemaking action does not exceed a standard set by federal law, does not exceed an express requirement of state law, and does not exceed a requirement of a delegation agreement. Finally, this rulemaking action was not developed solely under the general powers of the agency, but is authorized by specific sections of Texas Health and Safety Code, Chapter 382 (also

known as the Texas Clean Air Act), and Texas Water Code that are cited in the STATUTORY AUTHORITY section of this preamble, including Texas Health and Safety Code, §§382.011, 382.012, 382.014, 382.016, 382.017, 382.021, and 382.034. Therefore, this rulemaking action is not subject to the regulatory analysis provisions of Texas Government Code, §2001.0225(b), because the rulemaking does not meet any of the four applicability requirements. The commission invited public comment on the draft RIA determination, but received none.

TAKINGS IMPACT ASSESSMENT

The commission completed a takings impact analysis for the rulemaking action under Texas Government Code, §2007.043. The specific purposes of this rulemaking are to achieve reductions of HRVOC emissions and ozone formation in the HGB area and help bring the HGB area into compliance with the air quality standards established under federal law as NAAQS for ozone, as well as to improve implementation of the existing Chapter 115 by updating cross-references, adding flexibility, and deleting obsolete language. These rules require certain sources located in the HGB area to install equipment to monitor emissions and achieve HRVOC emission reductions in the HGB area through a cap and trade system, and implement new recordkeeping requirements. Installation of the necessary equipment could conceivably place a burden on private, real property.

Texas Government Code, §2007.003(b)(4), provides that Chapter 2007 does not apply to this rulemaking action, because it is reasonably taken to fulfill an obligation mandated by federal law. The emission limitations and control requirements within this rulemaking action were developed in order to meet the ozone NAAQS set by the EPA under 42 USC, §7409. States are primarily responsible for

ensuring attainment and maintenance of NAAQS once the EPA has established them. Under 42 USC, §7410, and related provisions, states must submit, for approval by the EPA, SIPs that provide for the attainment and maintenance of NAAQS through control programs directed to sources of the pollutants involved. Therefore, one purpose of this rulemaking action is to meet the air quality standards established under federal law as NAAQS. Attainment of the one-hour ozone standard will require reductions of HRVOC emissions, as well as substantial reductions in NO_x emissions. Any VOC reductions resulting from the current rulemaking are no greater than what scientific research indicates is necessary to achieve the desired ozone levels. However, this rulemaking is only one step among many necessary for attaining the one-hour ozone standard.

In addition, Texas Government Code, §2007.003(b)(13), states that Chapter 2007 does not apply to an action that: 1) is taken in response to a real and substantial threat to public health and safety; 2) is designed to significantly advance the health and safety purpose; and 3) does not impose a greater burden than is necessary to achieve the health and safety purpose. Although the rules do not directly prevent a nuisance or prevent an immediate threat to life or property, they do prevent a real and substantial threat to public health and safety and significantly advance the health and safety purpose. This action is taken in response to the HGB area exceeding the federal ozone NAAQS. This exceedance adversely affects public health, primarily through irritation of the lungs. The action significantly advances the health and safety purpose by reducing ozone levels in the HGB area. Consequently, these rules meet the exemption in Texas Government Code, §2007.003(b)(13). This rulemaking action therefore meets the requirements of Texas Government Code, §2007.003(b)(4) and (13). For these reasons, the adopted rules do not constitute a takings under Texas Government Code, Chapter 2007.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission reviewed the rulemaking action and found that the action is identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11, or will affect an action/authorization identified in §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 under 31 TAC §505.22 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 and ozone levels will be reduced as a result of the rulemaking. 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. The commission solicited comments on the consistency of the proposed rules with the CMP during the public comment period, but received none.

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 permits to include the revised Chapter 115 requirements for each emission unit affected by the revisions to Chapter 115 at their sites.

PUBLIC COMMENT

Public hearings for the proposed rulemaking were held in Houston on August 2, 2004; in Beaumont on August 3, 2004; and in Austin on August 5, 2004. The comment period closed on August 9, 2004. The following persons submitted written or oral comments: Albemarle Corporation (Albemarle); Lloyd, Gosselink, Blevins, Rochelle, and Townsend, P.C., on behalf of Allied Waste Industries, Inc. (Allied); ATOFINA Chemicals, Inc. and American Acryl, L.P. (ATOFINA-American); ATOFINA Petrochemicals, Inc. (ATOFINA-Petrochemicals); Bracewell and Patterson, L.L.P., on behalf of Basell USA, Inc. (Basell); Baker Botts, L.L.P., on behalf of the BCCA-AG; BP Products North America, Inc. (BP); Celanese Chemicals (Celanese); Celanese Chemicals and Enterprise Chemicals (Celanese-Enterprise); Chevron Phillips Chemical Company, L.P. (Chevron-Phillips); Dow Chemical Company (Dow); Enterprise Products Operating, L.P. (Enterprise); Environmental Defense; EPA; ExxonMobil (ExxonMobil); ExxonMobil Pipeline Company (EMPCo); Galveston-Houston Association for Smog Prevention (GHASP); Greater Houston Partnership (Partnership); Harris County Public Health and Environmental Services (HCPHES); Intercontinental Terminals Company (ITC); Kaneka Texas Corporation (Kaneka); LBC Houston, L.P. (LBC); Baker Botts, L.L.P., on behalf of the Mid-Course Coalition (MCC); Sierra Club - Houston Regional Group (Sierra Club); SUNOCO Chemicals (SUNOCO); Texas Chemical Council (TCC); Texas Genco, L.P. (Texas Genco); Texas Oil and Gas Association (TxOGA); and Valero Energy Corporation (Valero). ATOFINA-American, Basell, BP, and Dow endorsed the comments of TCC. Basell also endorsed the comments of ATOFINA-Petrochemicals. BCCA-AG and Valero endorsed the comments of MCC. EMPCo endorsed the comments of TxOGA. Texas Genco endorsed the comments of BCCA-AG and MCC.

RESPONSE TO COMMENTS

General comments

Environmental Defense, MCC, Partnership, and Texas Genco generally supported the proposed rules. No commenter generally opposed the proposed rules. Albemarle, Allied, ATOFINA-American, ATOFINA-Petrochemicals, Basell, BCCA-AG, BP, Celanese, Celanese-Enterprise, Dow, Enterprise, Environmental Defense, EPA, EMPCo, ExxonMobil, GHASP, HCPHES, ITC, Kaneka, LBC, MCC, Sierra Club, SUNOCO, TCC, TxOGA, and Valero raised issues or suggested changes to the proposed rules.

Texas Genco expressed support for the establishment of short-term caps for HRVOC.

The commission appreciates the support.

Environmental Defense recommended that additional chemicals should be designated for enhanced monitoring, including all ethyltoluenes, isoprene, all pentenes, toluene, all trimethylbenzenes, all xylenes, isobutane, n–butane, isopentane, n-pentane, ethane, and propane. Additionally, for counties outside of Harris County, the Environmental Defense commented that butenes and 1,3-butadiene should be added to this list of designated chemicals. The enhanced monitoring suggested by Environmental Defense would include flow monitoring for all flares and cooling towers handling designated chemicals and sampling for speciation, or at least total VOC, at representative intervals. Environmental Defense proposed a strategy to reduce “other reactive VOCs” (OVOC). Environmental Defense suggested that

for fugitives, all sources that can emit certain VOCs should be regulated under Subchapter H, Division 3 as the current four HRVOCs are regulated.

The concept of regulating additional VOCs was not included in the proposal and is beyond the scope of this rulemaking. If the commission were to make the suggested changes at this time, the applicability of the rule would be greatly expanded without providing proper notice to newly affected parties. The commission intends to initiate a stakeholder process that will focus on methods to improve the emissions inventory. The commission will use this stakeholder process, in conjunction with data from other air quality studies and monitoring, to determine future actions regarding other VOCs.

GHASP recommended that the commission revise Chapter 115 to regulate OVOC. GHASP suggested that OVOCs be defined as the following chemicals or classes: including all ethyltoluenes, isoprene, all pentenes, toluene, all trimethylbenzenes, all xylenes, isobutane, n-butane, isopentane, n-pentane, ethane, propane, and, for counties outside of Harris County, butenes and 1,3-butadiene. GHASP recommended that whether a facility is subject to these new regulations should be determined based on whether the OVOC emissions in the 2000 emissions inventory exceeded 100 tons per year ozone formation potential, for which GHASP provided a definition. The regulations suggested by GHASP would require an initial monitoring study for every vent gas stream and cooling tower inlet to gather representative flow, concentration, and speciation data. The results of this initial monitoring would be used to determine which vents and cooling towers would be expected to exceed 200 pounds per hour ozone forming potential and would require continuous monitoring of those vents and cooling towers.

GHASP recommended that the continuous monitoring, recordkeeping and reporting should generally meet the same requirements of the HRVOC rules; however, specific OVOCs that never exceed 5% of the ozone forming potential could be exempted from the continuous monitoring requirements. Vents and cooling towers that did not exceed the 200 pounds per hour ozone forming potential level would be subject to less stringent flow monitoring unless a measurement indicated that the source has exceeded 200 pounds per hour ozone forming potential. GHASP suggested that similar compliance schedules and exemptions to those provided in the HRVOC rules could be used for the OVOC regulations. Finally, GHASP suggested that Chapter 115, Subchapter H, Division 3 should be expanded to include all OVOC species.

The concept of regulating additional VOCs was not included in the proposal and is beyond the scope of this rulemaking. If the commission were to make the suggested changes at this time, the applicability of the rule would be greatly expanded without providing proper notice to newly affected parties. The commission plans to initiate a stakeholder process that will focus on methods to improve the emissions inventory. The commission will use this stakeholder process, in conjunction with data from other air quality studies and monitoring, to determine future actions regarding other VOCs.

EPA commented that to address uncertainties in the emissions inventory, the commission must improve inventory techniques with additional source monitoring and the use of better estimation techniques for fugitive emissions of all VOCs. EPA encouraged the commission to commit to improve source monitoring of less reactive VOCs, suggesting that less sophisticated monitoring programs without full

speciation may be adequate to achieve this goal. Furthermore, EPA suggested that the commission consider requiring monitoring of less reactive VOCs, specifically on cooling towers and flares.

The commission has been and will continue to strive to improve the emissions inventory. Many projects are being funded and/or sponsored by the commission to achieve this goal by researching new technologies and methods for measuring VOCs. However, there are substantial costs associated with requiring facilities to perform source monitoring for VOCs, even with limited speciation or total VOC. Monitoring for any specific VOCs such as those considered "less reactive" will by default require some speciation unless the only VOCs present at a specific source are just those which are the targeted species. Furthermore, the cost of monitoring for speciated VOCs is greatly impacted by the specific compounds that are required. HRVOC, as currently defined for the entire HGB area, are a limited group of compounds with similar properties and a narrow range of molecular weights. It is more complicated and costly to monitor for speciated VOCs with dissimilar properties from different organic compound groups or with large differences in molecular weight. The monitoring for some sources can be further complicated by the possible presence of other VOCs that, while not considered to be reactive and not of interest, interfere in the analysis of targeted compounds. Even facilities that will be performing the required monitoring for HRVOCs could be subject to substantial additional costs if required to monitor for other "less reactive" VOCs by possibly being required to install additional monitoring systems. The commission must give careful consideration to the associated costs and benefits before requiring any such monitoring. At present, there is insufficient evidence to suggest that there will be significant benefits from the suggested monitoring and additional regulation of "less

reactive" VOCs to warrant the economic impact to the regulated community in the HGB area. The commission will continue to evaluate new technologies and methods of measuring VOCs, data collected from ambient monitors in the HGB area, as well as other ongoing research activities to determine if further control and monitoring of specific VOCs other than the current HRVOCs is necessary to achieve attainment. The commission plans to initiate a stakeholder process that will focus on methods to improve the emissions inventory. The commission will use this stakeholder process, in conjunction with data from other air quality studies and monitoring, to determine future actions regarding other VOCs.

Environmental Defense commented that the commission should establish stringent limits on upset emissions of the most common chemicals that contribute to ozone exceedances in Houston, not just HRVOC.

The concept of regulating additional VOCs was not included in the proposal and is beyond the scope of this rulemaking. If the commission were to make the suggested changes at this time, the applicability of the rule would be greatly expanded without providing proper notice to newly affected parties.

GHASP commented that they are opposed to the change from a 24-hour site-wide cap to an annual cap. GHASP expressed a belief that a 24-hour cap would require facilities to manage the variability of their emissions. GHASP further commented that if the commission maintains the annual cap approach, it should conduct adequate modeling to determine the likely degree to which emissions will typically

exceed the annual average emission rate and adjust the modeling inventory to reflect the higher emission rate that would likely occur on some ozone-conducive days.

The photochemical modeling of the August - September 2000 episode coupled with a weight-of-evidence argument demonstrates attainment of the one-hour ozone standard. To achieve the necessary HRVOC reductions, the commission is adopting a two-part approach that will address variable short-term emissions through a not-to-exceed limit, and will address steady-state and routine emissions through an annual cap.

The annual HRVOC cap emissions will be distributed and enforced through an HRVOC emissions cap and trade program in Harris County under new Chapter 101, Subchapter H, Division 6. This program will establish a mandatory annual HRVOC emissions cap on all sites located in Harris County that emit or have the potential to emit more than ten tons per year of HRVOC, and that are subject to the HRVOC control requirements of Chapter 115, Subchapter H, Division 1 or Division 2. The cap will be managed by the allocation, trading, and banking of allowances. An allowance is the equivalent of one ton of HRVOC emissions. This HRVOC cap will be established at levels demonstrated as necessary to allow the HGB area to attain the one-hour ozone standard.

GHASP supported a site-wide cap to limit hourly emissions and opposed a categorical exclusion of all emissions above the hourly cap. GHASP expressed the belief that this exclusion could result in calculated business decisions to extend emission events.

The commission found no evidence to support GHASP's claim that owners and operators would purposefully make business decisions to extend emission events as defined in Chapter 101. Exceedance of the hourly cap is a violation of this rule. Furthermore, the emissions from a single emission event could potentially exceed the annual cap if owners and operators were required to calculate their long-term cap based on the entire quantity of emissions from emissions events when these events exceed the short-term cap limit of 1,200 pounds per hour. If the commission made the suggested changes, many facilities would face potential noncompliance with their annual cap in addition to noncompliance with the short-term cap. This scenario would force owners and operators to either shutdown or purchase a large amount of credits, if available, or operate in willful violation.

Enterprise supported the proposed uniform, hourly HRVOC limit to address short-term emissions.

The commission appreciates the support.

GHASP commented on the need for additional enforcement strategies particular to the HRVOC rules, and objected to the decision to prevent publication of the Division 4 rules regarding enforcement of site-wide caps.

The concept of additional enforcement strategies was not included in the published proposal and is beyond the scope of this rulemaking. The commission complies with the requirements of the Texas Administrative Procedure Act and applicable case law with regard to rulemaking and if the

rules will be part of the SIP, the commission also complies with the applicable federal law. Specifically, the commission provides notice of the proposed rules, allows time for comment, considers the comments, and provides reasoned justification for the adopted rules. Historically, there have been changes to rules upon adoption and those changes have been made in compliance with applicable law. The commission staff does not provide drafts of rules to the public, except when there are announced stakeholder meetings, before the versions presented to the commission for consideration are filed with the Office of the Chief Clerk. The Administrative Procedure Act does not require reasoned justification for rules that the commission votes neither to propose nor adopt. The commission does not have a policy, written or unwritten, of seeking approval from any outside group for the proposal or adoption of rules.

The Sierra Club commented on the preamble statement that "the commission may significantly amend these proposed rules at adoption, repropose a portion of these rules, or propose additional rules, as appropriate." The Sierra Club asserted that the commission is disowning its own SIP by stating that it may change and remove rules that it has stated are necessary for attainment of the one-hour ozone standard by 2007. The Sierra Club urged the commission to fully implement the demonstration attainment SIP now, with no more delays.

The commission disagrees with the commenter's assertion that the commission is disowning its own SIP, because the commission is fully adopting and implementing the attainment demonstration SIP. The statements made in the proposal preamble were drafted to ensure comments that may lead to changes in the proposed rules and the statements are consistent with

the commission's philosophy that comments could be considered toward the development of the final adopted rules and attainment demonstration SIP.

Dow commented that it is seeking clarification that "sonic velocity" flares can be used as a control device to meet the requirements of this rule.

There is no EPA determination regarding the applicability of 40 CFR §60.18 to sonic velocity flares; therefore, the commission declines to provide guidance because there is insufficient information available from EPA to determine whether the requirements of 40 CFR §60.18 are appropriate for sonic flares or what destruction efficiency should be applied to sonic flares. The commission encourages Dow to seek guidance from EPA on the 40 CFR §60.18 requirements as they pertain to sonic flares.

Miscellaneous Comments

TCC commented that the commission has developed a robust set of vent gas testing requirements and flare and cooling tower requirements that will result in measurements of HRVOC emissions from these sources and in many cases in measurements of emissions of other similar molecular weight species. Furthermore, TCC commented that the commission has developed a robust set of HRVOC fugitive emission monitoring requirements that stretch far past the requirements of EPA's maximum achievable control technology (MACT) standards and that should result in significant emission reductions of HRVOC and also other VOCs because many new emission sources are being added to the program.

The commission agrees and appreciates the comment.

TCC commented that the commission is regulating the correct mixture of chemicals and that any additions of other chemicals to the HRVOC list as part of the 2004 rulemaking will result in significant scheduling and cost issues for its member companies and pointed out that these same companies are in the process of engineering and installing the required monitoring equipment for the HRVOC rules as they exist today and many are helping to fund additional ambient monitoring stations.

The commission agrees that the monitoring and testing required by the HRVOC rules could cause significant scheduling issues and that the cost of monitoring could also be significant. At this time, the commission is not changing the list of HRVOC chemicals. However, the commission will need to review available control strategies to determine what controls are needed to reach attainment of the new eight-hour ozone standard. The final control strategy could require the control of additional chemicals and sources.

Celanese stated that the commission should exempt pilot plants from the HRVOC rules because the rule does not provide any allocations for pilot plant operation. A pilot plant does not produce a product, therefore, it does not meet the proposed definition for level of activity and would not receive any cap allocation. In addition, pilot plants have limited potential emissions, are typically authorized under 30 TAC §106.124 (which has an hourly limit of 6.0 pounds per hour and an annual limit of ten tons per year), and are exempted from other regulations, such as EPA's MACT and new source performance standards (NSPS). Celanese also commented that exemptions should be consistent regardless of the

location and should include pilot plants, cooling water tower heat exchange systems with less than 5% HRVOC, vent gases with less than 100 ppmv HRVOC, and vent gases with flows less than 100 standard cubic feet per hour.

For the purposes of these rules, the emissions authorized for pilot plants under §106.124 represent a significant amount of HRVOC emissions. Therefore, they cannot be specifically exempted from the monitoring and testing requirements or the HRVOC cap and trade rules in Chapter 101.

ExxonMobil and TxOGA requested that when periodic sampling is required that only single samples should be required instead of the multiple (five) samples described in Section 8.2.2.2 of Method 18. TCC commented that the commission should clarify that strict adherence to Method 18 is not required and that individual samples should be analyzed in triplicate (three injections) with averaged results.

Where EPA Method 18 is specified for analysis of periodic samples, only the analytical requirements of Method 18 are applicable. Section 115.725(d)(4) and §115.764(c) specify the number of samples that are required to be taken when periodic sampling is required.

With regard to the proposed hourly limit in the vent gas and cooling tower heat exchange system rules, MCC requested that the commission clarify the meaning of “one-hour block period” in the preamble to the adopted rules. MCC expressed a belief that the commission intended this phrase to mean each successive 60-minute period beginning at the “top” of each hour, e.g., 6:00 a.m. to 6:59 a.m.

MCC's understanding of the term "one-hour block period" is consistent with the commission's intent.

MCC generally supports the monitoring, recordkeeping, and reporting requirements for cooling towers, vent gas streams, and flares that handle HRVOCs.

The commission appreciates the comment.

Definitions

§115.10

Dow requested that a definition of "product" be included in §115.10 to incorporate previous rule interpretations.

The commission declines to add the definition to §115.10 at this time because it may affect other sections of Chapter 115. No changes were made in response to this comment.

Dow requested that a definition of "extraction" as it relates to natural gas processing be included in §115.10 to incorporate the commission's Rule Interpretation Memo R5-10.001.

The commission declines to add the definition to §115.10 at this time because it may affect other sections of Chapter 115. No changes were made in response to this comment.

EPA supported the proposed revision to the definition of "Strippable volatile organic compound."

The commission appreciates the support.

MCC suggested that §115.10(12), the definition of "Emergency flare," be changed to "A flare that combusts HRVOC containing gas streams only as a result of an upset event or unscheduled maintenance, startup, or shutdown activity."

The definition of "Emergency flare" may have applicability beyond the rules in Chapter 115, Subchapter H. The commission does not intend to limit the definition specifically to flares receiving HRVOC; therefore, the commission declines to make the suggested change.

EPA requested that the definition of "Emergency flare" be revised to add the word "unscheduled" before the words startup and shutdown. EPA expressed a belief that the intent was to establish a special provision for flares that operate only in emergency, unplanned situations, but the proposed wording could be interpreted to allow the flare to be used during planned startup or shutdown.

The definition of "Emergency flare" has been revised to be a flare that only receives emissions during an upset event. This change is necessary because, the emission event rules in Chapter 101 state that "a scheduled startup, shutdown, or maintenance activity may be considered an emission event, i.e., an unscheduled startup, shutdown, or maintenance activity, if an applicable emission specification is exceeded."

Division 1

Section 115.720 issues

Dow and TCC suggested that the definition of "Pilot gas" in §115.720(b)(3) should be revised.

The commission agrees to some of the suggested changes. The definition of pilot gas has been revised to include any fuel gas that does not contain greater than 5% by weight HRVOC. Furthermore, the commission did not revise the definition to include all thermal control devices. This definition is specifically used to address flares.

ExxonMobil and TxOGA commented that the definition of degassing safety devices in §115.720(b)(1) should not be limited to devices at geologic storage facilities and that the definition should be moved to §115.10. MCC and TCC commented that the word "control" should be added before device for clarity and that the definition should be moved to §115.10.

The commission intended for this definition to target geologic storage facilities that use a degassing safety device, which is a vent stack with a pilot. These degassing safety devices are often permitted as flares, and therefore, warranted acknowledgment in this rule. Furthermore, the definition was not moved to the Chapter 101 definitions or §115.10, because it was not the intention of this definition to affect any other rules in either Chapter 115 or Chapter 101, and no such changes were proposed for public comment. No changes were made in response to this comment.

Dow, ExxonMobil, MCC, and TxOGA commented that the definition of "Supplementary fuel" in §115.720(b)(2) should be changed to remove the limitation of, "to increase the net heating value to the minimum required value." ExxonMobil and TxOGA stated that natural gas or fuel added to raise the British thermal unit (Btu) level but that does not achieve the minimum required level would not be included. ExxonMobil, MCC, TCC, and TxOGA commented that the definition should be moved to §115.10 or to §101.1, because these definitions are generally applicable to all VOC controls.

The commission does not intend to limit the definition of "Supplementary fuel" so that fuel only meets the definition when sufficient fuel is added to increase the net heating value to minimum required level. The commission revised the rule to clarify the definition of "Supplementary fuel." A thorough evaluation of Chapter 115 would be necessary to determine whether or not these definitions are appropriate for broader applicability. Therefore, the definition of "Supplementary fuel" has not been relocated.

MCC, ExxonMobil, and TxOGA commented that the applicability of monitoring and controls should be by individual sources, and that sources or operations at a site that do not have HRVOC emissions or that have potential emissions that meet the exemptions should clearly be exempted.

The commission recognizes that some owners or operators of facilities that meet the applicability specified in §115.720 or §115.760 may have individual sources that are exempt. However, Subchapter H is based on a cap and trade system. Therefore, overall applicability must be based site-wide, not on an individual vent or flare. Specific exemptions are already provided in the rules

that determine the applicability of monitoring requirements for individual sources. However, sufficient recordkeeping must be required to document the exemption of specific sources. Therefore, the commission has not made the suggested change.

TCC commented that applicability in §115.720(a) should be based on an individual flare/vent rather than the account or site.

The commission recognizes that some owners or operators of facilities that meet the applicability specified in §115.720 or §115.760 may have individual sources that are exempt. Applicability must be based site-wide, not on an individual vent or flare. Specific exemptions are already provided in the rules that determine the applicability of monitoring requirements for individual sources. However, sufficient recordkeeping must be required to document the exemption of specific sources. Therefore, the commission has not made the suggested change.

TCC commented that the commission clarify that the term "vent" does not include those "vents" that are normally blind-flanged and only opened during steam purges and similar operations.

It is very difficult for the commission to summarize and address all of the possible notions that the regulated community may associate with the term, "vent" in this rule. The commission disagrees with TCC that the term "vent," as it is used in this division, would not include those "vents" that are blind-flanged and only open during steam purges and similar operations. Therefore, the commission did not make the suggested change.

Section 115.722 issues

Sierra Club requested that continuous monitoring of potential visible emissions from flares be required by the vent gas rule in §115.722. Sierra Club asserted that continuous monitoring of visible flare emissions would ensure compliance with §115.722 and §111.111(a)(4) and thus help ensure that VOC emissions are kept below limits that would protect human health. The continuous compliance methods would also help investigators determine compliance more easily.

There is currently no available monitoring technology that would allow long-term continuous monitoring of visible emissions from flares by any practical means. While the commission is studying technologies for directly measuring actual emissions from or the destruction/combustion efficiencies of flares, the development and application of these technologies toward this purpose is still preliminary.

TCC expressed concern that the 1,200 pounds per hour limit in §115.722(c)(1) and (2) is not technically feasible to meet during certain upset conditions associated with some hydrocarbon plants. TCC commented that the final rule needs to be adjusted so that owners and operators who use good control technology to reduce emissions associated with upsets are not penalized.

The impact to the annual cap due to exceedances of the short-term 1,200 pound per hour limit has been minimized. Any hourly exceedance above 1,200 pounds per hour will be a violation of the short-term limit, but only 1,200 pounds per hour of the exceedance will be attributed toward the calculation of the long-term cap. The HRVOC cap and trade program in Chapter 101 is based on

production and should allow owners and operators of sites with various levels of control to buy and sell HRVOC credits in the marketplace to alleviate any perceived inequity. Because the HRVOC allocations are based on production and use rather than actual HRVOC emissions, sites that install and operate more efficient control equipment prior to the required compliance date should benefit.

ExxonMobil, MCC, and TxOGA commented on §115.722(b) and (c) and expressed a belief that the site emission limitations should not be in multiple subchapters. ExxonMobil and TxOGA expressed a belief that the specification of default cap and short-term HRVOC emission limits should be in the Chapter 101, Subchapter H, Division 6 rules. TCC commented that the site-wide cap emission limitations should be moved to the HRVOC emission cap and trade rules because this language best fits the cap and trade provisions and would eliminate redundant language in both the vent/flare rules and the cooling tower rules.

The commission maintains that it is appropriate to reference these requirements in both Chapter 115 and in Chapter 101, because not every site is subject to the HRVOC cap and trade program in Chapter 101.

Sierra Club commented that the rules limiting emissions of HRVOC to 1,200 pounds per one-hour block period appear to require recordkeeping similar to the emission event rules, and questioned how the commission will ensure that companies record the emissions truthfully.

The commission requires that records of hourly emission rates in pounds per hour be maintained for all affected sources. Companies must maintain records sufficient to demonstrate compliance with both requirements, even if the recordkeeping is similar. No changes were made in response to this comment.

Sierra Club commented that fugitive emissions should be part of the 1,200 pound limit in §115.722(c)(1) and (2) and in §115.761(b)(1) and (2).

The commission adopted a control strategy for fugitive emissions that requires the repair of leaking components, as discussed in the commission's earlier rulemakings published in the January 3, 2003, and November 7, 2003, issues of the *Texas Register* (28 TexReg 113 and 28 TexReg 9847). This is distinguishable from the control strategy for other facilities with HRVOC emissions, specifically vents, cooling towers, and flares. The HRVOC cap and trade program limits emissions from these three categories of emissions and requires monitoring, but allows flexibility as to the specific control requirements. No changes were made in response to this comment.

Sierra Club commented that the limit of 1,200 pounds of HRVOC per one-hour block period in §115.722(c)(1) and (2) and in §115.761(b)(1) and (2) is not supported by the SIP appendices. Sierra Club stated that the appendices that refer to a short-term limit refer to a 1,000 pound release, and further stated that the commission did not give the source of the 1,200 pound limit. HCPHES

expressed a concern that ozone exceedances will occur even after the proposed hourly cap is implemented, particularly if emissions events occur simultaneously at multiple facilities.

TCC commented that the commission has not justified a 1,200 pounds per hour limit for any site in Harris County and recommended that a higher number is appropriate or that the existing emissions events rules provide an adequate regulatory mechanism to minimize emissions. Dow expressed similar concerns and provided similar comments.

MCC commented that the hourly limit on HRVOC emissions should ensure that short-term emissions remain under EPA's level of "ozone-forming significance." MCC suggested that the commission set the HRVOC limit at or near the upper limit of the "below ozone-forming significance" range of 1,500 - 4,000 pounds per hour, arrived at by the Texas Environmental Research Consortium's Project H-13. MCC commented that the effectiveness of the suite of control strategies; the reported frequency, magnitude, and location of short-term HRVOC emissions in the HGB area; the historical frequency of ozone-conducive conditions in the HGB area; the historical frequency of ozone exceedances in the HGB area; and the analysis of Texas Environmental Research Consortium's Project H-13 results support MCC's suggestion that HRVOC emissions should controlled by a short-term limit in the range of 1,500 - 4,000 pounds of HRVOC emissions per hour. MCC commented that this limit would only rarely affect peak ozone at an ozone significance level of two ppb. MCC further cited cost and technical feasibility as issues that support the establishment of the short-term HRVOC emission limit at or near the upper end of the 1,500 - 4,000 pounds per hour range. TCC commented that the additional controls (caps) are not justified in the perimeter counties based on the scientific findings according to

commission's Technical Analysis Division's modeling update on July 21, 2004, to the Photochemical Modeling Technical Committee.

The 1,000 pound release cited in the Texas Environmental Research Consortium Project H-13 Draft Progress Report in Appendix I of the HGB SIP is used to provide examples of potential impacts of releases of HRVOC emissions and is not necessarily indicated as a critical control value. Furthermore, the H-13 Draft Progress Report indicates that the impact of the release would be dependent on the time of day the release occurred, the location of the emission release, and the meteorological conditions at the time. Enforcement of an emission specification that is dependent on such variable factors would be impractical, and therefore, the commission applied the limitation on a 24-hour basis without regard to time, location, or meteorological conditions. As stated earlier, the commission is adopting rules to reduce HRVOC emissions to reach attainment of the one-hour ozone standard. The photochemical modeling of the August - September 2000 episode coupled with a weight-of-evidence argument demonstrates attainment of the one-hour ozone standard. To achieve the necessary HRVOC reductions, the commission is adopting a two-part approach that addresses variable short-term emissions through a not-to-exceed limit, and steady-state and routine emissions and through an annual cap. The projected increases of one - four ppb in peak ozone concentration per 1,000 pounds per hour of HRVOC emissions would be expected at the times and locations that would be sensitive to the release and at the right meteorological conditions. The 1,500 - 4,000 pounds per hour emission limit suggested by MCC is not feasible because it would potentially jeopardize efforts to reach attainment. Although the commission is not placing limits in small geographic areas, if emissions from a

concentrated area of emission sources were to emit at a level in this range in a small geographic area, conditions could be favorable for ozone formation.

The commission disagrees with Dow's comment that it will be impossible for large facilities or sites to meet the short-term limit. Several comments were received by the commission requesting that §115.782(c) be modified to establish a *de minimis* limit below which a shutdown to repair leaking components would not be required. In support of this request, Dow and TCC commented that some processes, such as pilot plants and plants that vent to a high efficiency thermal oxidizer, have minimal or no emissions from maintenance, startup, and shutdown. ExxonMobil commented that industry is continually working to reduce or eliminate shutdown related emissions. Although not all processes may be able to minimize startup and shutdown emissions to a minimal level, these comments imply that there are efforts that industry can make to reduce these emissions. The commission disagrees with Dow's comment that the 1,200 pounds per hour limit will not define a targeted limit in context of the known scientific information from the modeling studies. Based on the best available information, the commission maintains that the 1,200 pound per hour limit is sufficiently low to reduce the likelihood that a sudden emissions increase of sufficient magnitude will occur under the right conditions to cause a one-hour ozone standard exceedance. This limit strikes a balance between the emission rate used as an example in the H-13 Draft Progress Report and a limit that could, under certain conditions be more likely to result in ozone formation.

Based on comments and modeling analysis, the commission adopts §115.727(f) and §115.767(6) to provide exemptions from the short-term and annual cap emission specifications in §115.722 and §115.761 to those sites located in Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, and Waller Counties. Modeling studies have demonstrated that the proposed HRVOC limits on sites located in the seven counties surrounding Harris County are not necessary for the HGB area to attain the one-hour ozone standard. Further, the magnitude of HRVOC emissions from the seven surrounding counties affecting peak ozone concentrations by one part per billion is significantly larger than 1,200 pounds per hour. Affected industries in the seven-county area have indicated to the commission that representations for HRVOC emissions within their respective air permits are well below the values likely to be put in place through the HRVOC annual cap. The commission is exempting sites in the seven surrounding counties based on the presumption that the enforceable limitations from these sites are less than the area cap for the seven surrounding counties. In order to ensure that this presumption is accurate, each site with a potential to emit more than ten tpy of HRVOC must establish enforceable limits on HRVOC emissions from vent gas streams, flares, and cooling tower heat exchangers subject to the control requirements of Chapter 115, Subchapter H at levels represented in the most recent applications to the executive director for authorization under 30 TAC Chapter 116. Establishing enforceable limits on HRVOC emissions on an emission point basis can be accomplished through submittal of a PI-8 Form (Special Certification Form for Exemptions and Standard Permits) or any other form provided by the executive director to certify federally enforceable emission limits. In addition, enforceable limits on HRVOC emissions can be set by altering or amending authorizations under Chapter 116 to have an HRVOC emissions limit expressed in the maximum allowable emission

rate table. The executive director will review the total amount of HRVOC emissions established through these enforceable limits for sites in the seven counties surrounding Harris County and present those findings to the commission for its determination on the appropriateness of the cap and trade program for those counties. If the evaluation reveals that the total amount of enforceable HRVOC emissions is at a level that is inconsistent with the attainment demonstration for the one-hour ozone NAAQS by the attainment date, the commission may revoke the exemption.

TCC commented that the commission has not justified a 1,200 pounds per hour hourly limit for any site in the perimeter counties and recommended that a higher number is appropriate or that the existing emissions events rules provide an adequate regulatory mechanism to minimize emissions.

BP and Chevron-Phillips stated that scientific studies completed by the commission and independent findings submitted by scientists to BP, indicate that removing the HRVOC caps in the seven surrounding counties provides only a *de minimis* increase in one-hour and eight-hour ozone concentrations. BP and Chevron-Phillips stated that short and long-term HRVOC caps should therefore only apply to Harris County, because the dedication of industry and commission resources to include the surrounding seven counties is unwarranted, the seven-county cap is ineffective in terms of environmental benefit, and the seven-county cap has no scientific basis.

Chevron-Phillips stated that work to install HRVOC analyzers on affected flare lines, cooling towers, and process vents is underway, and significant enhancements to the fugitive monitoring program are

being implemented. In addition, improved and more comprehensive recordkeeping systems are also being established. Most importantly, the monitoring provisions will enable a facility to utilize actual monitoring data, rather than emission estimation factors, to determine compliance with permitted emission limits. In all permits examined through an informal industry group, the facility permit limits are significantly lower than the HRVOC cap that was previously assigned to each affected facility of the April 2004 rule proposal. Chevron-Phillips expressed a belief that the level of control afforded by the combination of monitoring and existing permit limits is adequate for the seven counties surrounding Harris County.

Dow expressed a belief that an annual emissions cap noted in §115.722(a) is not necessary for accounts that are located in the perimeter counties. Dow cited a May 2004 study prepared by the Center for Energy and Environmental Resources at the University of Texas. Dow also expressed a belief that the commission should use the combination of the monitoring and testing requirements with permitted annual emission rates to control annual emission of HRVOC in perimeter counties.

Dow recommended that the short-term limit of 1,200 pounds for HRVOC per hour in §115.722(c)(2) be eliminated or significantly raised for sources located in the seven perimeter counties. Dow stated that the 1,200 pounds per hour limit will not define a targeted limit in context of the known scientific information from the modeling studies, will make it impossible for large facilities to meet the requirement when maintenance, startup, and shutdown activities and emission events are included even if these events are controlled by the best known control technology, and will add a requirement which overlaps with the commission's other regulations and programs. However, Dow commented that

should the commission opt to set a short-term emission limit for the perimeter counties, the commission should set the limit in the range of 16,500 - 33,000 pounds per hour as a release of this quantity is expected to impact maximum ozone concentrations by up to one - two ppb, by volume. Dow stated that this is consistent with the approach used to establish the proposed short-term limit for sources located in Harris County as supported by the Texas Environmental Research Consortium's Project H-13 study.

The commission declines to change the hourly limit to within the range suggested by Dow for Harris County. The studies on which Dow relies to request a short-term limit of 16,500- 33,000 examined some of the sources in the Chocolate Bayou area of Brazoria County and the Texas City area of Galveston County. It would be premature to adopt a short-term limit of the magnitude suggested by the commenters until more complete data is obtained and analyzed.

However, as discussed in the response to the previous comment, the commission has exempted sites in the seven perimeter counties from both the long-term and short-term limits. Under concurrent rulemaking being adopted by the commission in §101.401, owners or operators of affected sites shall submit enforceable documentation of maximum allowable HRVOC emission rates from facilities located at those sites. If the evaluation reveals that the total amount of enforceable HRVOC emissions is at a level that is inconsistent with the attainment demonstration for the one-hour ozone NAAQS by the attainment date, the commission may revoke the exemption.

The commission acknowledges Dow's comment that the short-term limit adds a requirement that overlaps with the commission's other regulations and programs. Overlapping requirements frequently occur, particularly in the ozone nonattainment areas for sources of NO_x and VOC.

Dow suggested that the average one-hour block net heating value and exit velocity calculation in §115.722(d) should be used to determine flare efficiency for the emission rate calculation. Dow commented that using one 15-minute data point to determine the flare efficiency and the one-hour block average for the compliance demonstration increases the complexity level of the data support system and is burdensome with no actual benefit to the requirement.

The commission agrees that determining flare efficiency on a 15-minute basis for emission calculation purposes while compliance with the net heating value and exit velocity requirements are on a hourly basis overly complicates the data handling and recordkeeping process. Therefore, the commission revised the rule as suggested in §115.725(d)(5) - (7).

Dow suggested that the term, "site" should not be added to §115.722(c) and that the regulated entity should be the account. Dow commented that emissions points are assigned to an account and that the site cap information will be based on emissions collected for an account. Dow argued that is it is much easier to identify and validate compliance for areas that belong to an account over areas that belong to a site because accounts have usually been previously identified through permitting or the air emissions inventory.

ExxonMobil and TxOGA expressed a belief that the term, "account" should be changed to "site" in §115.720(a) and §115.760(a). ExxonMobil and TxOGA cited inconsistencies in facilities having single or multiple account numbers. They further commented that because site-wide cap allocations are proposed to be based on information other than past inventories, any reference to applicability by account is unnecessary. ExxonMobil and TxOGA also suggested that applicability should be assigned to a site, defined as a facility or facilities with common ownership and under common control. MCC commented that the commission should modify the proposed vent gas and cooling tower heat elimination system rules to apply to "sites" rather than "accounts." MCC commented that this change would aid in consistency and clarity. MCC also commented that the reference to an "account" in §115.760(a) should be changed to the term "site" because there are considerable inconsistencies in facility account numbers. MCC also suggested that "site" be defined as a facility or facilities with a common owner and under common control. MCC commented that the reference to an "account" in §115.720(a) should be changed to the term "site" because there are considerable inconsistencies in facility account numbers. MCC also suggested that "site" be defined as a facility or facilities with a common owner and under common control. TCC commented that the commission should not penalize companies based on existing air accounting principles and that the terms "site" and "account", which are used interchangeably in this proposal, cause confusion and should be defined and reviewed for consistency between regulated entities. TCC suggests that the term "site" apply to those stationary sources located on one or more contiguous or adjacent properties, which are under common control of the same person and each have the same two-digit major group standard industrial classification code. TCC commented that the terms in §115.760(a) and §115.761(a) - (c) "site" and "account", which are used interchangeably in this proposal, cause confusion and should be defined and reviewed for

consistency between regulated entities. TCC suggests that the term "site" apply to those stationary sources located on one or more contiguous or adjacent properties, which are under common control of the same person and each have the same two-digit major group standard industrial classification code.

EPA commented that §115.722 now refers to emissions from a "site" rather than from an "account" and stated that a clear definition of site seemed necessary for implementation of the rules.

The commission agrees with the commenters that the interchangeable use of the terms, "site" and "account" is inconsistent. Therefore, in order to conform to the Chapter 101 HRVOC cap and trade rules, the term, "account" has been replaced with the term, "site" throughout this subchapter.

Section 115.725 issues

Sierra Club expressed support for a direct monitoring requirement that would require a continuous monitoring instrument with a ppm or pounds per hour limit for HRVOC instead of the parametric monitoring proposed in §115.725(a)(1)(A) and (2)(A) and (B). Sierra Club also questioned how the commission defines "directly correlates to" and stated that a definition for the phrase should be provided.

Dow suggested that in §115.725(a)(1), the tracking of emissions from vent gas streams should utilize the concept of maximum potential rates that are revised based on knowledge of process changes and retesting or are calculated based on parameter data, which are directly correlated to the emission rate.

Dow expressed a belief that the commission should not require operating limits in §115.725(a)(2)(D) to track variation in the controlled HRVOC emission rates, but should require a set parameter level for prorating the emission rate based on the emission rate results from the performance test.

TCC offered alternatives to the proposed rule in §115.725(a)(1) and (2). TCC's first option requires that an initial test be conducted to determine the maximum hourly emission rate and then requires the owner/operator to evaluate the emission rate whenever a process change is made (similar to the approach used EPA's hazardous organic national emission standards for hazardous air pollutants rules). TCC's second option allows the use of continuous parameter monitoring that is directly related to the HRVOC emission rate and allows the owner/operator to change HRVOC emission rates throughout the year in accordance with monitoring data. TCC expressed a belief that these options are consistent with EPA rules and allow the owner/operator to select the option that best fits their situation for each vent gas stream.

ExxonMobil and TxOGA commented that the requirements in §115.725(a)(1) and(2) regarding operating parameters that correlate to emission levels is not feasible for all vents. ExxonMobil and TxOGA stated that additional testing will be necessary to determine or verify the correlation of any operational parameters to the vent stream HRVOC emissions. Furthermore, ExxonMobil, and TxOGA stated that certain parameters may not currently be monitored, so new monitoring equipment may have to be installed and that it will take at least 12 - 18 months to complete the selection, installation, and initial testing. ExxonMobil and TxOGA further commented that the levels of operating parameters at the time of testing cannot be simply used to set limits because the emissions can vary as a function of a

combination of parameters. ExxonMobil and TxOGA suggested that operational parameters should be used as an option to indicate the level of emissions based on an established correlation and that the parameter may be able to be used to indicate whether or not the emissions from the testing are occurring.

The rationale for requiring continuous monitoring of operational parameters is to have an on-going indicator of compliance for vent gas streams for which a one-time test for HRVOC emissions has been performed. This is necessary to assure that the processes and control devices associated with a vent gas stream are operated within the same representative operational conditions as during the HRVOC emissions test. The phrase "directly correlate to" used in the rule was not intended to imply that the parameter monitoring will be used to predict or estimate HRVOC emission rates, or that the selected parameter or parameters must be directly proportional with emission rates or control device efficiency, as in the statistical definition of the phrase (i.e., HRVOC emissions increase as the parameter value increases). Owners or operators should select an operational parameter or parameters that, if varied, will have a direct effect on the HRVOC emission rate or control device efficiency, as applicable. Process parameters that can be varied without having any effect to HRVOC emission rates or control device efficiency are unacceptable for satisfying this monitoring requirement. Examples of potential operational parameters include maximum production rate, maximum loading rate, process pressure, minimum combustion temperature, or minimum excess air. The most appropriate parameter to satisfy this monitoring requirement will depend on the specific processes that result in the HRVOC emissions from the vent gas stream and the type of control device. The approach

suggested by Dow would require significant actual testing and statistical analysis, i.e., similar to the requirements for predictive emission monitoring systems, to verify that the parametric monitoring accurately reflects actual emissions because the parameters monitored may not be directly linear with HRVOC emissions. Because of the wide range of vent gas streams impacted by these requirements, it is the commission's intent to provide flexibility to industry with regard to the selection of the operational parameters. The flexibility provided in the rule should allow owners and operators to use existing parameters in most cases, so the commission does not agree with the ExxonMobil and TxOGA assertions that 12 - 18 additional months will be needed to complete the selection, installation, and initial testing of new monitoring equipment. The commission revised the rule to require owners or operators to select a parameter or parameters that directly affects the HRVOC emission rates or control device efficiency.

Dow suggested that the commission consider some alternatives to the proposed parameter monitoring requirements for vent gas streams in §115.725(a).

The commission contends that there is sufficient flexibility in the vent gas stream parameter monitoring requirements to allow owners or operators to select parameters. Because the exact parameters have not been specified, the rules do not require prescriptive quality assurance procedures for the parameter monitoring. Quarterly inspection is a minimum level quality control check to ensure proper operation of the parameter monitoring that will be used to demonstrate compliance with the rules. The provisions in §115.725(m) apply to the monitoring requirements in §115.725(m), allowing owners or operators to submit a request for minor

modifications or alternatives to test methods and monitoring. There is an additional provision in §115.725(a)(4) that allows the executive director to specify alternative monitoring for the required parameter monitoring. No change to the rules has been made in response to this comment.

TCC commented that the commission should clarify the intent of using the term "operating limit" in §115.725(a)(1)(A). For example, TCC questioned if it is the intent that a variation from an "operating limit" is a "deviation" under the Title V program and whether these limits represent any type of authorization. Dow commented that in §115.725(a)(2)(A) and (B), the controlled vents should not require relevant operational parameters for both the uncontrolled HRVOC vent rate and the control device efficiency. Dow further stated that the performance of the control device should be well established and enforced as they currently are under new source review (NSR) permits, Title V federal operating permits, and other state and federal regulations, but should not be a part of this rule.

If parameter values are outside the established range, then such an occurrence is in violation of the rule and a deviation under the Title V program. However, for purposes of cap compliance, tested HRVOC emission rates may be used. If parameter values are outside the established range due to an emissions event, then process knowledge and engineering calculations may be used to estimate emissions. The commission does not agree that monitoring of a parameter that affects performance of the control device is unnecessary. If monitoring is required under one of the other regulatory requirements cited by the the commenter, that monitoring could be used to satisfy the requirements of §115.725(a)(2)(A) and (B).

EPA supported the changes in the monitoring rules that provide a framework to establish operational limits for uncontrolled process vents and vents that are controlled by means other than a flare, but questioned how the limits would work in practice. EPA requested that the rule clarify that a vent operating within its operational limits would be assumed to emit at its maximum potential HRVOC emission rate for purposes of cap compliance.

The commission understands EPA's concern and modified the rule, accordingly.

TCC commented that analyzer vents, steam system vents, and vent gas streams in §115.725(a)(1) should be excluded from parameter monitoring in cases where there is no HRVOC present, except during emissions events, startup, shutdown, and maintenance.

The adopted rules contain an exemption from vent gas streams that have a maximum potential flow rate equal to or less than 100 dry standard cubic feet per hour. Any vent above this exemption limit should be monitored. Therefore, the commission has not made the suggested change.

TCC commented that the requirements in §115.725(a)(1) and (2) and (c) for duplicative plan submittals should be deleted and that any additional monitoring plan requirements should be contained in the QAP or the test plan or subsequent modifications to those documents.

The commission revised the rule regarding the submission and approval of QAPs. The revised rule requires written QAPs to be developed, implemented, and followed, but are only required to be submitted upon request by the executive director. The monitoring plans required under §115.725(a)(1) and (2) and (c) are also only required to be submitted upon request by the executive director.

ExxonMobil, MCC, and TxOGA commented that the term, "limit" should be replaced with the term "values" in §115.725(a)(1)(c) and that these 'values' should only be used to indicate that additional vent stream testing may need to be conducted. ExxonMobil and TxOGA also expressed disagreement with the implication that operating above the established operating limits would be a violation of the rule.

The intent of the rule is to establish operating limits, not values, as suggested by the commenters. Therefore, no changes were made in response to this comment.

Dow commented that the monitoring plan elements required in §115.725(a)(3)(B) to include all process information and calculations used to calculate HRVOC emissions from emission events and startup, shutdown, and maintenance events would be impossible to compile until the events are known. ExxonMobil, MCC, and TxOGA made similar comments. ExxonMobil and TxOGA also commented that process information and engineering calculations for maintenance activities will vary in each case and that monitoring plans can only generally describe the process information and the engineering calculations that may be used. Dow stated that supporting documentation of the actual process information and calculations for a specific event should be required.

The commission is not requiring estimated emissions in pounds per hour, rather the commission is seeking the information and the calculations that owners and operators use to calculate emissions during emissions events. No changes were made in response to this comment.

EPA commented that the procedure provided in §115.725(a)(3) for estimating emissions during emission events and scheduled startup, shutdown, and maintenance activities are intended to provide an option for calculating emissions when established operational parameters are exceeded. During these times, EPA stated that the emissions would be higher than the maximum potential emissions during normal operation. EPA commented that these occurrences would not necessarily be "emission events" because emission events are by definition unauthorized. EPA also stated that use of process knowledge and calculations would be appropriate for these instances as long as they are infrequent. EPA suggested that the use of process knowledge be limited to only 14 days per year (comparable to the allowance for temporary flares.)

The commission disagrees with EPA's assumption that the emissions would necessarily be higher than the tested emission rates. If parameter values are outside the established range, then the commission would consider such an occurrence to be in violation of the rule. However, for purposes of cap compliance, tested HRVOC emission rates may be used. If parameter values are outside the established range due to an emissions event, then process knowledge and engineering calculations may be used to estimate emissions. Should a facility desire to expand their operating range, retesting would be required. With regard to EPA's comment that the use of process

knowledge should be limited to only 14 days, it is not the commission's intent to allow the use of process knowledge except during emissions events.

ExxonMobil, MCC, TCC, and TxOGA expressed a belief that the specified content of the monitoring plans in §115.725(a)(4) for vent stream emissions determination using process knowledge and operating parameters is too prescriptive.

The commission disagrees with this comment and contends that the criteria in the rule is reasonable. The plans require the specifications for all of the monitors, the information supporting the selection of the process parameters, actual testing or manufacturers' data documenting the control efficiency of any control device, and quarterly inspections to ensure the proper operation of continuous monitoring systems. If an owner or operator opts to use process knowledge for estimating emissions during emissions events, as allowed by §115.725(a)(3)(B), then the monitoring plans would need to include relevant process information and calculations.

ExxonMobil, MCC, and TxOGA commented that the provision in §115.725(a) that allows for vents at cyclic or batch processes to be considered as zero during non-operational periods except for startup, shutdown, and maintenance should be expanded to any periodic vent when process knowledge indicates that the vent source is not active. Dow proposed that the last sentence of §115.725(a) be revised to clarify that a vent gas stream can use zero for the emission if the vent gas stream does not operate during certain hours throughout the year regardless of whether the process is a cyclical, batch, or continuous process. TCC suggested that the following language be added to this subsection to clarify

that the option may be used for continuous processes during times when they are not operating: "HRVOC emissions shall be considered as zero during non-operational periods other than startup, shutdown, or maintenance activities for vent gas streams that do not operate and emit HRVOC during some periods of a calendar year."

If a vent gas stream does not operate during certain hours throughout the year and process knowledge indicates that the vent source is not active, then the commission considers the process to be cyclic, and therefore, applicable to the zero emission provision in §115.725(a). No change was made in response to this comment.

Basell stated that polyolefins production facilities have been permitted in accordance with commission guidelines based on a potential to emit of the polyolefin solid coming from the process or extruded pellet. Basell also stated that the method to determine the potential to emit most likely overstates the emissions. Also, many facilities have groups of equipment that serve the same purpose and are used for short-term holding or movement of the polyolefins between the production unit, the extrusion unit, and the load out or packaging systems. These are all potential vents and are often grouped as one vent in a permit. Although any individual vent is not expected to exceed the 100 ppm threshold for HRVOC, the total of all transfer system vent streams based on potential to emit values, when added to other items as required in the regulation (e.g., cooling towers) does have the potential to exceed the 5% of a facilities' cap. Basell stated that due to the dilute nature of the polyolefins transfer system vent streams and the diverse nature of the points at which the VOC or HRVOC may enter the atmosphere at points in time and over the course of a year, these streams do *not* represent a significant HRVOC source, and

therefore, similar to analyzer vents, should be excluded from the vent monitoring and recordkeeping requirements.

Basell suggested that if an exemption is not provided, then at a minimum, the rules should allow a facility to perform representative testing of less than 50% of the vents (i.e., test one point to represent all points downstream as a worst-case scenario, or define common points in the system and perform testing on only one of the common points to represent all system points. Basell also suggested that an alternative method would be to allow composite sampling and limit analysis to the components in question. If this testing indicates that these sources are less than 5% of the cap on an annual basis, then no further testing or monitoring would be required for HRVOC. TCC commented that an alternative to the testing requirements should be added so that the owner/operator of a polyethylene or polypropylene unit may use the VOC head-space test to determine polymer handling emissions from the extruder through loading.

The rule currently has a provision for testing of half of the vents, so no rule change is necessary as suggested by Basell. Provisions for alternative methods have been provided in §115.725(m). Owners or operators may submit a request to use the proposed head-space method in accordance with that subsection; therefore, no change has been made to the rules.

ExxonMobil, MCC, and TxOGA expressed a belief that testing a vent gas stream to determine maximum potential emissions in §115.725(a)(6)(B) is rarely feasible. They further stated that although §115.725(a)(5) provides for additional testing, it does not specify when testing is required to be done.

ExxonMobil and TxOGA suggest that retesting should be done whenever process knowledge indicates that the emissions may be expected to be significantly above emission during prior testing.

The HRVOC rules were designed to be performance-based, emphasizing monitoring, recordkeeping, reporting, and enforcement. 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 adopted revisions to §115.725(a) in the November 7, 2003, issue of the *Texas Register* (28 TexReg 9845) 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, PRVs, steam vents, and streams where there is no HRVOC present, except during emissions events.

The commission contends that additional rules are not necessary to allow owners and operators to retest vents. The commission also contends that it is in the best interest of owners and operators to retest when the maximum potential has increased in order to be compliant with this rule.

Sierra Club commented that the monitoring plans required by §115.725(a)(4) should be submitted within seven days when requested instead of 30 days, because the plans should already exist and be ready for immediate submittal.

The commission contends that the 30 days specified in the rule is an adequate time to supply the specified information and there is no significant benefit to providing the information within seven days instead of 30.

Dow recommended that §115.725(a)(4) be deleted and Dow suggested language to be added to §115.726(a)(2)(D) to simplify the documentation and recordkeeping for the rule.

The commission declines to make Dow's suggested change. Monitoring plan content should be described with the monitoring requirements. No change was made in response to this comment.

Dow commented that the requirement in §115.725(a)(4)(D) to schedule quarterly inspections of the continuous monitoring systems is unreasonable and arbitrary. TCC commented that commission has not justified requirements for quarterly "inspections" of the continuous monitoring system. ExxonMobil and TxOGA stated that the quarterly inspection of all monitors used for emission determinations from emissions events and scheduled maintenance, startup, and shutdown activities is infeasible.

The commission contends that the quarterly inspection requirements are reasonable. The rule does not require monitoring for all parameters used to determine HRVOC emissions during emissions events, but instead requires the owner or operator to select a parameter or parameters that directly affect the HRVOC emissions. Therefore, if the owner or operator selected a single parameter to monitor for a particular vent gas stream or possibly multiple vent gas streams, then the owner or operator would be required to inspect that particular monitor. There is sufficient flexibility in the vent gas stream parameter monitoring requirements to allow owners or operators to select parameters. Because the exact parameters have not been specified, the rules do not require prescriptive quality assurance procedures for the parameter monitoring. Quarterly inspection is a minimum level quality control check to ensure proper operation of the parameter monitoring that will be used to demonstrate compliance with the rules. No change to the rules has been made in response to this comment.

ExxonMobil, MCC, and TxOGA commented that §115.725(a)(6)(C) implies that the monitoring requirements in paragraphs (1) or (2) may not be installed at the time of testing, but refers to parameter limits established during testing.

If the selected parameter for monitoring was not measured or monitored during prior testing, then the owner or operator would have no basis for setting the operational limit, and therefore, would need to retest the vent. Therefore, §115.725(a)(6)(C) has been revised to specify that in order to use the prior testing data, the operational parameters selected must have been monitored

with a monitoring system meeting the requirements of the rule or an equivalent monitoring system.

Dow commented that it is unclear how the maintenance records of a vent and associated process can be used to indicate that vents are similar and do not require redundant testing in §115.725(a)(7)(A)(v). Dow suggested that maintenance of the emission source should not be used as an indicator to show that the source operates in a similar manner.

The commission disagrees with the comment that maintenance is not a factor when determining if similar sources can be reasonably expected to have similar emissions. Modifications made during maintenance to a process or control device may impact the emission rate of the source or the performance of a control device. If similar sources are not maintained in a similar manner, then the emissions from those sources may not be similar. Therefore, the commission retained the requirement for maintenance records when a request is submitted for a waiver of testing under §115.725(a)(7)(A). No changes have been made in response to this comment.

ExxonMobil , MCC, and TxOGA expressed a belief that the requirements in §115.725(b) to provide operational parameter monitoring, in addition to providing continuous emissions monitoring systems for direct measurement, and the requirement to use operational parameter monitoring in addition to process knowledge for specifically listed source types is unwarranted and unnecessary. EPA noted that §115.725(b) provides the option of using a continuous emission monitor for vent gas streams, and also requires that the parameter monitoring requirements of §115.725(a) be followed. EPA presumed that

the parameter monitoring requirements would be used to establish a maximum potential flow rate that could be used in conjunction with the measured concentration to establish the emission rate. With the caveats discussed in the comments on §115.725(a), EPA stated that this would be an acceptable method to establish vent emissions. EPA expressed concern that §115.725(b)(1)(C) calls for the use of process knowledge instead of parameter monitoring to establish flow, and stated that the use of process knowledge for establishing flow rate is not acceptable for compliance purposes.

The parameter monitoring is required as an indicator for flow, which is allowed to be determined by process knowledge under §115.725(b)(1)(C). A new §115.725(b)(1)(D) has been added in response to EPA's comments. The commission disagrees with EPA regarding the use of process knowledge in §115.725(b)(1)(C). The commission has required actual monitoring throughout Subchapter H, whenever reasonable and practicable.

Sierra Club requested that the term "cylinder gas audit" used in §115.725(b)(1)(B) and §115.726(b)(5) be defined.

The definition of and procedures for a cylinder gas audit are already provided by EPA in 40 CFR Part 60, Appendix F. It is not necessary to redefine or restate what a cylinder gas audit is or how to perform such an audit in §115.725(b)(1)(B).

ExxonMobil, MCC, and TxOGA commented that in §115.725(b)(2) the items listed are vent gas streams or sources and not processes as stated in the rule. TCC commented that the word "processes" should be replaced with the term "sources" to more accurately define the listing.

The commission agrees that the term "processes" is inappropriately used, and therefore, revised §115.725(b)(2) accordingly.

ExxonMobil, MCC, and TxOGA commented that process knowledge should also be allowed for vents associated with double block and bleed operations and that this source type should be added to the list in §115.725(b)(2) because these sources are small and emissions can be calculated using process knowledge and engineering calculations with good certainty. Dow suggested that air emissions from double valve and vent systems should be added to the list of equipment in §115.725(b)(2) where process knowledge can be used to estimate hourly emission data. Dow stated that all of these sources should also be exempt from the parameter monitoring required in §115.725(a)(1) and (2).

There is an exemption for vents that have a flow rate less than 100 dry standard cubic feet per hour in §115.727(c)(2). It is the commission's position that vents that have a flow rate of greater than 100 dry standard cubic feet per hour should be monitored. No additional changes were made in response to this comment.

EPA supported the rules in §115.725(c) for estimating emissions from pressure relief devices.

The commission appreciates the comment.

ExxonMobil, MCC, and TxOGA stated that the installation of additional monitoring may not be possible in the time provided.

Sufficient flexibility is included in the PRV monitoring requirements to allow owners or operators to select parameters that are already monitored. The commission also maintains that sufficient time has been provided for owners or operators to install monitors for those PRVs that do not have current monitoring to meet the requirements of §115.725(c). Therefore, no change has been made to the rules in response to this comment.

Sierra Club expressed support for a direct monitoring requirement in §115.725(c)(1) that would require a continuous monitoring instrument with a ppm or pounds per hour limit for HRVOC.

The commission appreciates the support for the monitoring of PRVs; however, the commission has not specified such an instrument for monitoring PRVs.

Sierra Club commented that the pressure relief events mentioned in §115.725(c)(2) appear to be emission events. Sierra Club questioned how the emission event rules interact with the HRVOC rules and whether there was duplication of effort.

In general, the emissions from open PRVs would be considered emission events and must comply with Chapter 101, Subchapter F. However, these emissions must also be accounted for in the short-term and long-term HRVOC caps in Chapter 115, Subchapter H.

ATOFINA-Petrochemicals and Basell stated that proposed §115.725(c) does not provide an alternative method of compliance determination. ATOFINA-Petrochemicals and Basell expressed a belief that the rule should provide sufficient flexibility by providing an alternate method other than through the use of a continuous monitoring system, provided that the alternative method will generate data consistent with the requirements of §115.725(c)(1) - (4). SUNOCO commented that the rule should provide for alternative methods of compliance demonstration for PRVs other than the continuous monitoring system required under §115.725(c). Dow also suggested that the commission broaden the concepts behind the monitoring plan to allow for using one or many process parameters, visual observations, relief valve calculations, and any other process equipment information to estimate the emissions from the release. Dow suggested that this information be captured in a written PRV release procedure that focuses on the total methodology for the calculation as opposed to a monitoring plan that focuses only on monitoring devices.

Flexibility has been provided in §115.725(c) to allow facilities to select parameters to monitor to satisfy the requirements of the rule. The provisions in §115.725(m) apply to the PRV monitoring requirements, allowing an owner or operator to submit a request for minor modifications or alternatives to test methods and monitoring. There is an additional provision in §115.725(c)(4) that allows the executive director to specify alternative monitoring for the required parameter

monitoring. Revisions have been made to §115.725(m) to clarify that alternative monitoring methods may be requested; however, the rule has not been revised to provide for alternative demonstrations of compliance. There is sufficient flexibility in the rule to satisfy the intent of §115.725(c), which is to require monitoring of affected PRVs. Allowing alternatives that do not include monitoring would not satisfy this intent.

Dow expressed a belief that the commission should impose the monitoring requirements of §115.725(c)(1) and (2) on PRVs that contact process gas that contains 5% by weight or greater HRVOC, and on PRVs that are on lines larger than one inch. Dow stated that the potential emissions for valves contacting gas with less than 5% by weight and on lines below one inch would be very small. Dow commented that this suggested change would also make this portion of the rule consistent with the HRVOC fugitive emission requirements. TCC commented that the commission should withdraw the parameter monitoring requirements for PRVs because owners and operators are already required to report these releases, and that the proposed continuous parameter monitoring results are a trivial environmental benefit while creating hundreds of new detailed monitoring and recordkeeping requirements. ExxonMobil, MCC, and TxOGA stated that the applicability of the PRV rules in §115.725(c) should match the applicability in Subchapter H, Division 3. ExxonMobil, MCC, TCC, and TxOGA also commented that PRVs with less than 5% HRVOC, PRVs in sampling or instrumentation systems, and conservation vents or other devices on atmospheric storage tanks that are actuated by vacuum or pressure of no more than 2.5 pounds per square inch, gauge should be exempt.

The commission intended that the applicability of Division 1 apply to any site with a controlled or uncontrolled vent gas stream containing HRVOC. This would apply to any PRV that has the potential to emit HRVOC. The intent of the monitoring required for PRVs in §115.725(c) is for including HRVOC emissions from PRVs when a relief event occurs, i.e., when the PRV is open. The applicability, requirements, and exemptions in Chapter 115, Subchapter H, Division 3 are intended to reduce emissions from PRVs when they are closed, but possibly leaking. The commission contends that while fugitive emissions from the PRVs specified in §115.787 may be minimal, the HRVOC emissions from actual relief events may be substantial. PRVs are allowed to use any of the applicable exemptions found in §115.727, and no additional exemptions are warranted. No changes were made in response to this comment.

Dow requested that the commission define the universe of PRVs that are subject to the new parameter monitoring requirements and that the commission consider alternatives to this requirement. ExxonMobil, MCC, and TxOGA stated that the term, "applicable" relief valve needs to be defined.

The scope of the PRVs that would be subject to the requirements of Chapter 115, Subchapter H, Division 1 will be all PRVs that are not controlled by a flare and that do not meet the exemptions already provided in Division 1 for vent gas streams. Additionally, there is sufficient flexibility in the PRV monitoring requirements to allow owners or operators to select parameters. The provisions in §115.725(m) apply to the PRV monitoring requirements, allowing owners or operators to submit a request for minor modifications or alternatives to test methods and monitoring. There is an additional provision in §115.725(c)(4) that allows the executive director to

specify alternative monitoring for the required parameter monitoring. Therefore, no change has been made to the rules in response to this comment.

TCC commented that the commission has not justified the need for additional supporting documentation in §115.725(c)(3)(C) and that a description of how to calculate the emissions should be sufficient.

The commission disagrees with this comment. The commission contends that an owner or operator should be able to establish that the equations used are valid for the situation and that the owner or operator should have a copy of the supporting documentation available on site. Therefore, the commission has not made the suggested change.

ExxonMobil, MCC, and TxOGA commented on §115.725(d), stating that the flare performance requirements from 40 CFR §60.18 specified in this rule should only apply to flares when they receive HRVOC.

The commission agrees that the flare performance requirements from 40 CFR §60.18 specified in this rule should only apply to flares when they receive HRVOC, and has therefore, revised the rule language. However, flares that are required by other state or federal regulations to meet the requirements of 40 CFR §60.18 must be in compliance with these requirements at all times when receiving or having the potential to receive emissions, regardless of whether the emissions are from HRVOCs or other VOCs. The commission cannot include a provision in this rule that

exempts a facility from having to meet the requirements of 40 CFR §60.18 mandated by a permit, other state or federal rule, or by an EPA regulation.

Sierra Club objected to allowing 1.0% of the annual operating time of the flare to exceed the flare flow rate under §115.725(d)(1) and §115.764(a)(3) and (b)(3), and stated that there is no justification for allowing noncompliance for a flare.

The referenced provision is not an allowance for noncompliance of a flare. Section 115.725(d)(1) states, "The executive director may approved 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." This provision is to allow facilities to use alternative means to determining flow rate for rare incidences of extremely high flow rates that would exceed the range of the continuous flow monitors required by §115.725(d)(1). While some flare systems may still require multiple flow monitors to satisfy the flow monitoring requirements, the commission determined that requiring an additional flow monitor solely for monitor flow rates that rarely occur (less than 1% of the time) was overly burdensome. The referenced §115.764(a)(3) and (b)(3) do not refer to flares. No changes were made in response to this comment.

ATOFINA-Petrochemicals and Basell stated that a site may decide to install and operate an alternate control device after the effective date of proposed §115.725(d) to control emissions from PRVs and process vents, and to utilize a flare historically operated as a process flare solely as an emergency flare. ATOFINA-Petrochemicals and Basell stated that in these cases, if the alternate control device can

demonstrate a destruction efficiency capability that meets the requirements of 40 CFR §60.18, the site owner or operator should have the ability to reclassify the flare as only an emergency flare and discontinue use of the measurement and monitoring devices required by §115.725(d). SUNOCO commented that the owner or operator of a site should have the ability to reclassify a process flare to an emergency only flare for possible situations when alternative control devices are installed after the effective date to control emissions from process vents and PRVs. This would allow the owner or operator to discontinue the monitoring required for process flares under §115.725(d) and utilize the alternative monitoring provisions for emergency flares in §115.725(g).

The commission agrees with the comments, and therefore, revised §115.726 to include provisions to ensure adequate documentation, reporting, and recordkeeping of these types of flare reclassifications and changes in monitoring.

ExxonMobil, MCC, and TxOGA commented that they support the provisions to use process knowledge and engineering calculations for flares that receive liquid or dual phase flows and that they would like to have this option under §115.725(d).

The provisions to allow process knowledge and engineering calculations for special categories of flares specified in the rule are not intended to be acceptable alternatives for all flares, only for cases where the commission determined that the continuous monitoring of flares required in §115.725(d) would be impractical. No change to the rule was made based on this comment.

ITC requested that the commission provide an exemption to §115.725(d) for storage tanks controlled with dedicated flares. The exemption would exclude the need for a chromatograph and the calculation of net heating value of vent gas streams. ITC suggested that §115.725(d) be modified to allow for the use of process knowledge to determine the HRVOC concentration and the net heating value to demonstrate compliance under §115.722 (a) - (d). ITC suggested that the commission do this by using wording similar to §115.725(e)(4) or (f)(6).

To support this suggestion ITC commented that at one of its facilities it has tanks with dedicated flares that contain products that are virtually pure HRVOC, and ITC questioned whether in this case a chromatograph is necessary to speciate HRVOC. ITC commented that in this case it was willing to consider the vent stream to be 100% HRVOC when calculating the mass flow to the flare and for emissions calculations. ITC also questioned the necessity of the net heating value calculations to insure compliance with the Btu requirements of 40 CFR §60.18. ITC provided an example calculation with propylene to show that if the vent gas stream is 94% propylene that the minimum Btu requirement for efficient combustion, as required by 40 CFR §60.18, is satisfied. ITC also noted that even during emergency flow conditions the flare tip velocities will not exceed the maximum specified in 40 CFR §60.18.

The commission agrees with ITC's comments and revised the rule to provide an alternative in §115.725(m)(3) for flares in dedicated service to storage tanks containing 95% of an individual HRVOC. This provision will allow the use of process knowledge and engineering calculations to

determine net heating value and HRVOC concentrations in lieu of the online analyzer required under §115.725(d)(2); however, flow monitoring is required.

ExxonMobil, MCC, and TxOGA commented that an alternative to the initial calibration in §115.725(d)(1)(C) prior to installation needs to be provided for existing flow meters and provided suggested language. Dow suggested that the commission establish alternate calibration procedures for existing flow meters in §115.725(d)(1)(C). TCC commented that the commission should acknowledge in the rule that existing equipment may be used to meet the requirements.

Alternatives to the initial calibrations, such as those described by the commenters, may be addressed by requesting a minor change to the monitoring requirements as allowed in §115.725(m). Because the commission cannot anticipate every possible alternative to the initial calibration requirement in the rule, the commission cannot know in advance which alternatives are acceptable and which are not. Therefore, the commission contends it is more appropriate to address these issues as site-specific modification requests. Consequently, the commission has not revised the rule as suggested.

ExxonMobil, MCC, and TxOGA commented that requiring the analytical accuracy for flare stream net heating value to be accurate within 5% is unnecessary. ExxonMobil, MCC, and TxOGA further stated that it is only necessary to determine if the net heating value is above the minimal value specified in 40 CFR §60.18 to determine compliance with §115.722(d), and to determine which flare destruction efficiency may be used.

The requirement in §115.725(d)(2) is not intended to be the accuracy requirement for the overall results of those parameters. The commission revised this section of the rule adopted in the November 7, 2003, issue of the *Texas Register* (28 TexReg 9847) to no longer require a specific list of constituents the analyzer must measure to determine net heating value and molecular weight to provide greater flexibility. Owners and operators may decide on a case-by-case basis what constituents to monitor to satisfy this requirement. The 5% specified in the rule is provided as guidance to owners and operators for deciding what constituents must be measured by the analyzer. The actual overall accuracy of the measurements of net heating value and molecular weight is a combination of the uncertainties of the individual measurements of constituents and the uncertainty introduced by the selection of the constituents for monitoring. No changes were made to the rule in response to this comment.

ExxonMobil, MCC, and TxOGA commented that newer monitoring technology requires less calibration so the calibration requirements in §115.725(d)(2) should be relaxed.

ExxonMobil and TxOGA have not provided specific information or data supporting the assertion that new monitoring technology requires less calibration than is specified in the rule. Therefore, the commission cannot determine whether or not relaxing the calibration requirements is warranted. Additionally, the commission does not contend that all possible monitoring systems that could be used to satisfy the rule requirements are of equal quality or have the same technological advances. The quality assurance requirements in the rule cannot be based solely on the best performing monitoring system available. It is not the commission's intent to limit the

technology of monitors that could be used to satisfy the requirements of this rule. Furthermore, this rule does not mandate that owners or operators install only the most advanced and latest model monitors produced by a specific manufacturer. No changes were made in response to this comment.

Dow suggested that in §115.725(d)(2)(A)(ii)(I) the rule be modified to include cases where the flare header may not have two other non-HRVOC constituents present at significant concentrations by providing additional criteria.

The suggested change is not necessary because significant flexibility has already been provided for the selection of constituents to monitor for net heating value and molecular weight as well as the calibration requirements for non-HRVOC constituents. If the flexibility provided is insufficient to address a site-specific concern, an owner or operator may submit a request to the commission for a minor modification as provided in §115.725(m).

TCC commented that if companies are already providing proof of linearity for other non-HRVOC components, the requirement to check the top two non-HRVOC components weekly should be eliminated in §115.725(d)(2)(A).

The requirement to check the analyzer weekly is a quality assurance check for analyzer drift, not linearity. An initial linearity check will not serve to detect drift in the analyzer's response over time. Regular and frequent checks for analyzer drift are necessary to quality assure the data that

will be used to demonstrate compliance with the rule requirements. Therefore, no change was made in response to this comment.

ExxonMobil, MCC, and TxOGA also commented on §115.725(d) that flare flow during times of high moisture content should be allowed to be corrected and stated that overestimation of the mass rates will occur when the flow rate includes high moisture and the constituent analyzer is measuring on a dry basis.

The commission agrees with the commenter and revised §115.725(d)(2) to clarify that making corrections for moisture may be necessary to ensure that flow rate and concentrations are on an equal basis for proper calculation of mass rates. Methods of determining moisture for this correction have been specified in the rule. The commission also amended the rule to clarify that concentrations for determining net heating value must be on a wet basis, which is consistent with the requirements of 40 CFR §60.18(f)(3).

ExxonMobil, MCC, and TxOGA also requested clarification on the calculations in §115.725(d)(3) to continuously operate monitoring systems at least 95% of the time. Specifically, ExxonMobil, MCC, and TxOGA asked whether the normal calibration time is subtracted from the total flare operating time or from the monitor outage time.

Normal calibration time would be included in the total operating hours with valid quality-assured data when determining the percent measurement data availability as specified in §115.725(d)(3),

and §115.764(a)(3) and (b)(3). The percent measurement data availability is the valid quality-assured data divided by the total operating hours of the flare.

ExxonMobil, MCC, and TxOGA also commented that the on-stream requirement of 95% should exclude "special" times when flare conditions make monitoring infeasible. TCC commented that in §115.725(d)(3), the commission should allow periods of analyzer outage due to "steam-outs" associated with certain maintenance, startup, or shutdown activities and exclude these periods from calculations of 95% on-stream time. The impact of these steam-outs will cause inconsistent and incorrect readings between the gas chromatograph and the flow meter.

The majority of such situations can be addressed through the installation of proper sampling conditioning systems that will allow monitoring to continue. Owners or operators may submit a specific request for modification or alternative to the monitoring requirements for those conditions that cannot be addressed by sampling conditioning systems. The commission cannot anticipate all possible situations that might interfere with monitoring to allow adding specific provisions to address these situations. The commission cannot have a provision to exclude "special" times from the requirements to monitor because the term is ambiguous and would erode the enforceability of the monitoring requirements. Therefore, the commission declines to make the suggested change.

MCC suggested that for analytical outages that last less than 24 hours, it should be able to use the average of the last good value and the first good value following the outage, and for outages that last 24 hours or more, use the results of at least one manual sample taken during that period.

Section 115.725(d)(4) requires that a sample be taken daily during monitoring downtime of the on-line analyzer. This will allow more accurate information than using past sampling data. Therefore, the commission has not made the suggested change.

MCC commented that manual sampling should not be required for shorter outages, and that the length of the outage should be long enough to arrange for the necessary personnel to be scheduled.

Ten hours is sufficient time to allow for scheduling the necessary personnel to collect samples. If an owner or operator is uncertain whether a particular outage of an analyzer will exceed the eight-hour limitation, they may elect to collect a sample within the eight hours after analyzer failure. If the eight-hour limitation is not exceeded then the sample would not need to be analyzed; however, if the analyzer failure does last longer than eight consecutive hours, then the requirement to start collecting samples within ten hours has already been satisfied.

ExxonMobil, MCC, and TxOGA stated that the requirement for manual sampling in §115.725(d)(4) must allow sufficient time to arrange for the necessary personnel to be scheduled. ExxonMobil, MCC, and TxOGA provided suggested changes to the requirements for manual sampling during analyzer outages. Dow proposed that the requirement to take a grab sample should commence within 24 hours after the initial on-line analyzer malfunction as originally described in §115.725(d)(4). Dow also suggested that a data substitution procedure should be allowed for these periods in the rule with details defined in the QAPs. TCC commented that the commission should accept the 24-hour average as acceptable data substitution for those periods of analyzer outage during times other than emission

events, startup, shutdown, or maintenance. TCC also commented that the commission should retain the 24-hour provision for sample collection to ensure adequate time for sample collection in §115.725(d)(4). TCC also encouraged the commission to indicate in the response to comments that the modifications outlined in the table titled "Summary of Method 18 Modifications" are acceptable to the commission.

The commission contends that ten hours is sufficient time to allow for scheduling the necessary personnel to collect samples. If an owner or operator is uncertain whether a particular outage of an analyzer will exceed the eight-hour limitation, they may elect to collect a sample within the eight hours after analyzer failure. If the eight-hour limitation is not exceeded, then the sample would not need to be analyzed; however, if the analyzer failure does last longer than eight consecutive hours, then the requirement to start collecting samples within ten hours has already been satisfied. Additionally, with regard to the referenced table of modifications to Method 18, all modifications to a test method or monitoring requirement are site specific and dependent on the specific situation. The commission cannot "approve" a modification to Method 18 via the response to comment process. If owners or operators wish to request a modification to a test method or monitoring requirement, a written request must be submitted and a site-specific approval must be given.

GHASP expressed concern regarding the commission's strategy for flare monitoring, specifically with the use of assumed flare destruction efficiencies. GHASP further asserted that under §115.725(d)(7), (e)(3), (f)(5), and (g)(2)(E) the commission may discourage research and application of monitoring

technology to verify flare destruction efficiencies. Instead, GHASP suggested that companies should be required to present affirmative evidence such as remote sensing data that demonstrates the conditions under which the flares perform as designed.

The use of remote sensing to determine flare destruction efficiency is not ready for commercial use, but the commission will continue to follow technological advances in this area and will reevaluate use of the assumed destruction efficiency in the future if reliable data indicate a need to do so. The commission disagrees that the use of the assumed destruction efficiency discourages research and application of monitoring technology to verify flare destruction efficiencies. While the current body of data on flare efficiency includes information showing lower flare efficiency under certain circumstances, much of the data shows efficiencies higher than 99%. Facilities with well-designed and maintained flares thus have incentive to support techniques to verify flare efficiency.

EPA expressed its concern that the projected flare destruction efficiency for ethylene and propylene for compliance with the cap was 99%. EPA noted that commission staff had provided information on the basis for the 99% destruction efficiency and stated that this documentation should be included in the SIP. EPA expressed remaining uncertainty that a 99% efficiency is justified.

The use of a 99% destruction efficiency for ethylene and propylene in a flare meeting the requirements of 40 CFR §60.18 is based on a limited amount of data from EPA flare studies conducted in the early 1980's. The data shows that the combustion efficiency of a flare under

these conditions, with some unexplained exceptions, is generally greater than 99%. The combustion efficiency is a measure of the complete combustion of hydrocarbons to carbon dioxide and water. The formation of carbon monoxide decreases the combustion efficiency. The hydrocarbon destruction efficiency is thus higher than the combustion efficiency. The information in EPA's *Compilation of Air Pollutant Emission Factors* (AP-42), Section 13.5, Industrial Flares, is based on the same flare study data. The emission factor for total hydrocarbons is 0.14 pound per million Btu. The compound burned was crude propylene with a heating value of less than 20,000 Btu per pound. On this basis, the calculated hydrocarbon (HC) emissions would be as follows:

(20,000 Btu/pound HC)(0.14 lb HC/1,000,000 Btu) = 0.003 pounds of HC emitted per pound burned

The corresponding efficiency would be (1 - 0.003) x 100 = 0.997 x 100 = 99.7%

Extrapolation of the flare test results to a wide variety of compounds must be done with caution, because some compounds are more easily destroyed by combustion than others. The test results in the study cited above are based on destruction of propylene; thus, the use of 99% destruction efficiency for propylene requires no extrapolation and can be justified based on actual test data. Screening tests conducted in the early 1980's (EPA-600/2-85-106) showed destruction efficiencies greater than 99% for ethylene, comparable to the efficiency for propane and propylene. Thus, the use of 99% destruction efficiency for ethylene is supported by test data and requires no extrapolation.

The HRVOC rules require that heating value and exit velocity of flares be monitored continuously to confirm that the flares are operated in continuous compliance with the heating value and velocity specifications of 40 CFR §60.18. With these added assurances that the flares are operated properly, the assumption of 99% destruction efficiency for ethylene and propylene is supported at this time by the available data and EPA precedent.

The commission sponsored preliminary studies of a pilot test method, using a passive Fourier transform infrared spectrophotometer, for the determination of actual flare destruction efficiency. The technology is not ready for commercial use, but the commission will continue to follow technological advances in this area and will reevaluate use of the assumed destruction efficiency in the future if reliable data indicate a need to do so.

Sierra Club objected to the assumption of flare destruction efficiency of 99% for ethylene and 98% for propylene, and stated that flares often operate routinely at considerably lower destruction efficiencies.

Studies showing the lower efficiency were focused on flaring at oilfield battery sites. The flares tested were simple pipe systems with no flare tips and very crude gas-liquid separation and liquid knock-out systems. Liquid carry-over to the flare was the main cause of the lower combustion efficiencies that were measured. By comparison, flares in industrial use in the HGB area have engineered flare tips that are designed to maintain flame stability. They also use efficient knock-out systems to prevent liquid carry-over to the flare.

Dow commented that they support the minimum flare destruction efficiency of 99% for ethylene and propylene in §115.725(d)(7). Dow suggests that a destruction efficiency of greater than 99% should be allowed in cases where the commission has issued an NSR permit authorizing emissions from the flare tip based on a 99.5% efficiency for the selected HRVOC. TCC supported the use of "generic" flare efficiencies for the specific HRVOCs and commented that a flare efficiency greater than the proposed 98% - 99% should be allowed for specific flares if the flare has received an NSR air permit, which allows the use of the higher efficiency and added that the flare efficiency for this rule should align with the same flare efficiency used in the NSR air permit.

The commission appreciates the Dow comment supporting minimum flare efficiencies. However, the commission declines to increase the flare efficiencies in the rule as suggested by Dow and TCC.

Sierra Club commented that it does not support the requirement for a minimum monitoring time for monitoring systems of 95% of the operational time for the flare because it allows up to 438 hours of non-continuously monitored operation. Sierra Club suggested that the maximum allowable time for monitor downtime should be seven days (168 hours) or 1.9% of the time. GHASP also expressed concern with the allowance for up to 5% of monitoring system downtime, considering that time required for normal calibration checks is not considered downtime. GHASP expressed concern that companies might routinely operate their monitoring system close to the 5% downtime allowance to minimize emission reporting. GHASP urged the commission to consider a lower limit (such as 2%) or

to require companies to maintain documentation of an actual malfunction for each downtime incident and to demonstrate that the repair was completed expeditiously.

The commission does not consider a minimum monitor uptime requirement of 98% or higher as suggested by GHASP and Sierra Club to be appropriate or reasonable for the continuous monitoring systems that will be installed for compliance with this rule. The commission requires documentation of malfunction for each downtime incident and a demonstration of repair in §115.726(d)(3). No changes were made in response to these comments.

Albemarle commented that due to the limitations of monitoring technology, continuous flow monitoring systems and on-line analyzer systems as proposed in §115.725(d) will fail to provide the desired information when monitoring metal alkyl flares. Albemarle further stated that metal alkyls are extremely hazardous, pyrophoric materials. Therefore, Albemarle proposed that metal alkyl flares be defined and exempted from the continuous monitoring requirements of the rule. Albemarle suggests that requirements similar to the proposed requirements in §115.725(I) for flares specifically designed to receive and control liquid or dual phase streams may be an appropriate alternative. Finally, Albemarle commented that the recordkeeping requirements in proposed §115.726(d)(8) would be appropriate for metal alkyl flares. TCC and BP proposed a new exemption for any flare in metal alkyl service and proposed that “metal alkyl flare” means a flare that handles vent gases from metal alkyl production processes. Furthermore, TCC and BP commented that alternatives (i.e., process knowledge) to continuous monitoring and analysis should be allowed for flares in metal alkyl service.

The commission agrees that the nature of metal alkyls when in significant quantities may interfere with the on-line analyzers that would be used to perform the continuous monitoring in §115.725(d)(2). The rule has been revised to include a new §115.725(j) to allow owners or operators the option of using process knowledge and engineering calculations for determining net heating value and HRVOC emissions. The commission retained the requirement to monitor flow rate according to §115.725(d)(1) because there is currently available technology that should be capable of monitoring flow in a metal alkyls flare. However, a provision has been provided in §115.725(j)(1) to allow owners or operators to submit a request for alternative parameter monitoring if the level of metal alkyls in a particular flare prevents direct monitoring of flow rate. The commission estimates that there are only five flares in the HGB area that would be considered in metal alkyls service. Therefore, while these flares may be in continuous operation, this provision for metal alkyls flares will have an insignificant impact to the attainment demonstration for the HGB ozone nonattainment area.

ExxonMobil, MCC, and TxOGA expressed a belief that in §115.725(e)(1) that calorimeters should not be mandated. Instead, ExxonMobil, MCC, and TxOGA suggested that under §115.725(e) process knowledge should be allowed for known composition. ExxonMobil, MCC, and TxOGA expressed their belief that this would provide net heating value within 5% accuracy and provide information needed for calculation of HRVOC emissions. ExxonMobil, MCC, and TxOGA also stated that in §115.725(f)(3) that calorimeters should not be mandated. Instead, ExxonMobil, MCC, and TxOGA suggested that under §115.725(f)(6) process knowledge should be allowed for known composition.

Provisions for loading flares and maintenance, shutdown, and startup flares that receive known concentrations of HRVOC has already been provided in §115.725(e)(4) and (f)(6). Other loading operations and maintenance, shutdown, and startup activities may be highly variable and process knowledge may not be sufficient to ensure the minimum net heating value requirements are met. Therefore, the commission has not made the suggested changes. However, the commission has provided a new alternative to monitoring net heating value in §115.725(m)(2) to provide greater flexibility. This provision will allow owners or operators to not monitor net heating value if they elect to add sufficient supplemental fuel to meet the minimum net heating value requirements while assuming zero net heating value contribution from the flare waste gas stream.

Enterprise suggested that the words "unloading and associated transfer" be added to §115.725(e) because the proposed language makes it appear that only marine "loading" operations are eligible for the alternate monitoring program and that unloading and associated transfer operations are not eligible. Enterprise stated that there is no sound basis for applying one program to marine loading and another to marine unloading and transfer operations.

The commission's intent was to apply the program to both marine loading operations and transport vessel loading and unloading operations. Therefore, the commission amended the rule language to be consistent with the definitions of these operations in §115.10. The definitions of these operations include both loading and unloading. Equipment that is located between the marine vessel and the first storage tank or pipeline meter and that is associated with loading and

unloading, such as drying, chilling, and heating, is considered part of the marine loading operation.

Enterprise suggested removing the term "HRVOC" from §115.725(e) because it appears to be redundant, and because it is unlikely that flares will ever abate "solely" HRVOCs.

The commission agrees and has not included the term "HRVOC" in the adopted version of §115.725(e).

Dow, ExxonMobil, and TxOGA commented that for flares used solely for loading operations, the commission should allow, in §115.725(e)(4), the use of process knowledge to determine net heating value and HRVOC if at least 95% of the composition of the waste gas stream can be defined via process knowledge.

The provision in §115.725(e)(4) is designed for flares that only receive predominantly pure HRVOC as an alternative to monitoring net heating value with an on-line calorimeter as required in §115.725(e)(1), because these flares would not be expected to have significant variation in the net heating value. The requirements of §115.725(e)(3) already allow the use of loading calculations and the composition of the material being loaded to determine HRVOC composition. The language in §115.725(e)(4) has been revised to better reflect the purpose of the provision.

Dow commented that the section for flares used solely for maintenance, startup, and shutdown activities in §115.725(f) cannot be easily applied to temporary flares in pipeline operations. Dow suggested that a new section be added to represent this type of flare activity. Dow also suggested that pipeline flares be allowed to not meet the minimum net heating value requirements for short periods of time during purging, indicating that is may not be safe or easy to supply supplemental fuel to a remote location.

Sufficient flexibility has been provided in §115.725(f) or (i) to allow flares servicing pipeline operations to comply. If a facility does not believe that some portion of the approach in §115.725(f) or (i) is feasible, then it may submit a minor modification or alternative monitoring request per §115.725(m). The commission declines to make Dow's suggested change that pipeline flares be allowed to not meet the minimum net heating value requirements during purging. Pipeline flares will either be regulated under a permit or a permit by rule that have minimum net heating value requirements. An owner or operator must comply with all applicable requirements for the pipeline flares and providing such an exemption in Chapter 115, Subchapter H, Division 1, would not exempt a pipeline flare from having to meet minimum net heating value requirements specified by the applicable permit or permit by rule.

ExxonMobil, MCC, and TxOGA commented that no rationale was provided for the 14-day limit for single flares and the 28-day limit for multiple use flares within any 12-month period in §115.725(f) and (h). TCC commented that the commission should revise the 14 days to 30 days in §115.725(f) because 14 days may not provide enough time to perform required maintenance. Dow also suggested that the 14-day limit for a single flare be changed to 30 days. Dow opposed the 28-day limit for maintenance,

startup, and shutdown activity flares in §115.725(f)(2), citing that large sites such as Dow Freeport with many types of plants and processes will not be able to comply with this requirement. TCC commented that the commission should consider placing a limit on only each individual flare in §115.725(f), not total flares.

The rationale for the 14- and 28-day limits is to limit the use of flares that are not directly monitored. However, §115.725(f) has been revised to include unscheduled startup, shutdown, and maintenance activities into this same category of flare operation. This change is necessary because according to the emission event rules in Chapter 101, a scheduled startup, shutdown, or maintenance activity may be considered an emission event, i.e., an unscheduled startup, shutdown, or maintenance activity, if an applicable emission specification is exceeded. Therefore, additional time has been added to §115.725(f)(1) and (2) to account for the additional activities included under this provision. The site-wide time limitation in §115.725(f)(2) is necessary to prevent circumvention of the rules through the use of multiple portable flares. The requirements in §115.725(h) are designed for flares that do not normally receive HRVOC and are provided as short-term alternative if a flare normally in HRVOC service needs to be taken out-of-service for maintenance on the flare. The commission intends for such periods of non-monitored flaring activity to be limited and has not provided additional time in §115.725(h).

ExxonMobil, MCC, TxOGA, and TCC commented the limitations should be based on hours instead of days in order to avoid using up a day with a short period of use because many flares are used on an intermittent basis. EMPCo suggested that limits for flares used for limited service, temporary service,

and only for scheduled maintenance, startup, or shutdown activities be set in hours rather than days. Specifically, EMPCo suggested that temporary use of these flares be set at 336 hours for any single flare and 672 hours for all flares at a site in any 12-month period. EMPCo further commented that this suggested change would not increase potential emissions, would be more consistent with respect to the way these flares are used, and would avoid using a day's allowance for a short period of use during one day.

The commission agrees with the commenters regarding specification of the limit in hours rather than days, and has revised the rule to specify that the maximum time limits for flares in temporary HRVOC service or for maintenance, startup, or shutdown activities are in hours.

TCC commented that the commission should clarify the term "operated" as used in §115.725(f), so that it means only those times when the flare is actually receiving emissions.

A flare is considered operational if the valves leading to the flare are open, thus having the potential of allowing emissions to the flare.

Dow and TCC commented that any flare that receives 95% of a known constituent should not be arbitrarily limited to 98% of an individual HRVOC, as specified in §115.725(f)(6).

The provision in §115.725(f)(6) is designed for flares that only receive predominantly pure HRVOCs as an alternative to monitoring net heating value with an on-line calorimeter as required

in §115.725(f)(3), because these flares would not be expected to have significant variation in the net heating value. The requirements of §115.725(f)(5) already allow the use of process knowledge to determine HRVOC composition. The language in §115.725(f)(6) has been revised to better reflect the purpose of the provision. The commission agrees that the owner or operator of a flare that receives greater than 95% of an individual HRVOC should be allowed to use process knowledge to determine net heating value and emissions of HRVOC. The change does not significantly affect the accuracy of the estimated net heating value.

EPA suggested that the use of process knowledge instead of actual monitoring for emergency flares as provided for in §115.725(g) be limited to 14 days during any 12-month period. EPA commented that if an emergency flare is used more than 14 days during any 12-month period the source would be in violation and a monitoring system would have to be established.

The rules limit the use of emergency flares by definition. The definition of an emergency flare has been revised to be a flare that only receives emissions during an upset event. It would be impractical and potentially unsafe to limit the use of a true emergency flare. Therefore, the commission has not placed a time limit on the use of emergency flares.

ExxonMobil, MCC, and TxOGA generally support the special provisions for emergency flares. However, ExxonMobil, MCC, and TxOGA commented that the calculation for actual exit velocity for each activity should be clarified to require calculation only when the flare flow is above the baseline established in §115.725(g)(2)(b)(ii).

The suggested change is unnecessary, because §115.725(g)(2) specifies that process knowledge and engineering calculations may be used to determine compliance with the requirements of §115.722(a) - (d) during an upset event. The only time that calculation of actual exit velocity is necessary for an emergency flare is during such an event. If the baseline flow has been properly established, the only time the flow rate will exceed the baseline is during those events.

TCC and Dow commented that the requirements of §115.725(g)(2)(C) should be replaced with a description of the engineering calculations, manufacturer's information, or actual testing that the owner or operator will use to calculate the HRVOC emissions, flare tip exit velocity and net heating value during an emissions event.

The majority of the suggested information is already required under §115.725(g)(2)(C), except for any actual testing data that may have been performed under §115.725(g)(2)(B), as noted by the commenter. The rule has been revised to correct this oversight.

Sierra Club expressed support for including emission events in the required monitoring under §115.725(a)(4) and §115.725(g)(2)(E) to provide more accurate estimates of emissions.

The commission appreciates the comment.

GHASP asserted that flares often operate routinely at considerably lower control efficiencies, and cited a study that concluded that flare combustion efficiencies may be approximately 70% or lower. GHASP

also asserted that the commission had documented major incidents with apparent flare destruction efficiency failures in the Houston region.

The study cited by GHASP was focused on flaring at oil field battery sites. The flares tested were simple pipe systems with no flare tips and very crude gas-liquid separation and liquid knock-out systems. Liquid carry-over to the flare was the main cause of the lower combustion efficiencies that were measured. By comparison, flares in industrial use in the HGB area have engineered flare tips that are designed to maintain flame stability. They also use efficient knock-out systems to prevent liquid carry-over to the flare. The incident of flare destruction efficiency failure cited by GHASP involved a smoking flare, which does not meet the requirements of 40 CFR §60.18 and so would not be assumed to have a destruction efficiency of 99%.

LBC requested that a type of operation known as "blowdown" be addressed in §115.725(h) of the Subchapter H proposed regulations. LBC commented that "blowdown" is not scheduled maintenance or shutdown, as defined in §115.10, nor is it a continuous chemical manufacturing process or batch process. The commenter expressed a belief that the operation should be applicable under §115.725(h)(1) - (3) and that simple engineering process knowledge calculations could be used to account for flared emissions.

The commission contends that the described operation would already qualify for the provisions in §115.725(h) if the operation is indeed not a scheduled maintenance, shutdown, or startup activity as defined in §101.1. Therefore, a change to the rule proposal is not necessary.

ExxonMobil, MCC, and TxOGA recommended changes to the flow monitoring option in §115.725(h)(3)(C) to allow the maximum one-hour average flow rate data, excluding data from scheduled startups, shutdowns, maintenance, or emissions events from the previous 30 operational days to comply with §115.722(a) - (d). ExxonMobil, MCC, and TxOGA also suggested that if the continuous composition monitoring option of §115.725(h)(4)(B) is used, the maximum one-hour average total HRVOC amount and the minimum one-hour average net heating value data from the previous 30 operational days (excluding data from scheduled startups, shutdowns, maintenance, or emissions events) should be used to comply with §115.722(a) - (d). The commenters further stated that the use of single peak values should not be required.

The commission agrees with the commenters that single peak values should not be used for data substitution and revised the rules as suggested, because compliance is demonstrated on a block hour basis.

TCC commented that the commission has not defined the term “minor” in §115.725(m), formerly §115.725(j), and that requests for modifications will be unduly restricted based on use of the term.

The term “minor” modification is consistent with provisions in other commission rules and EPA regulations regarding modifications to test methods and monitoring requirements. Therefore, the commission declines to make the suggested change.

Sierra Club commented that local air pollution agencies with jurisdiction, and not just the executive director, should have the right to request information about flares, flow rates, exit velocities, net heating values, and HRVOC under §115.725(n), formerly §115.725(k). Sierra Club also stated that the information should be sent within seven days instead of 30 days because the information should already be calculated and available.

The local air pollution programs with jurisdiction are not currently contracted or delegated the authority to review and grant approval for monitoring methods. Therefore, the commission has not made the suggested change. With regard to Sierra Club's suggestion to change the requirement to specify that the information must be submitted within seven days of request, the 30 days specified in the rule is an adequate time to supply the specified information and there is no significant benefit to providing the information within seven days instead of 30.

ExxonMobil, MCC, and TxOGA requested that a new subsection be written to allow special case flares to meet more than one of the special conditions in §115.725(e) - (i). The commenters suggested that they should be able to use a combination of the most restrictive options of the multiple cases for which the flare would qualify. Dow expressed a belief that new rule language is necessary for a common flare approach, which may be used as an alternative to the individual type flare approaches in §115.725(f) and (g). Dow suggested combining the concepts of emergency flares and flares that receive emissions from maintenance, startup, and shutdown activities into this approach.

The commission agrees with the commenters that additional flexibility is needed for some flares that serve as multi-purpose flares and revised the rule to include new §115.725(k) and §115.726(d)(10) to provide this option.

Environmental Defense suggested that the commission require video monitoring of flare stacks to help identify occasions when actual emissions exceed calculated emissions due to lower than ideal flare destruction efficiencies.

There is currently no available monitoring technology or camera that would allow long-term continuous direct monitoring of emissions from flares by any practical means. The current camera technologies do not quantify or speciate emissions. While the commission is studying technologies for directly measuring actual emissions from or the destruction/combustion efficiencies of flares, the development and application of these technologies toward this purpose is still preliminary.

Environmental Defense and GHASP commented that the commission should propose for comment the use of monitoring systems or technology to measure integrated emission profiles (as opposed to process specific), suggesting that Texas Environmental Research Consortium's project H-13 might identify options that are commercially available or in development that might be used for this monitoring.

There are monitoring systems being researched that might be used for such integrated emission measurements; however, these systems are either new technology or are new unproven

applications of existing technology. The commission considers it premature to put any of these monitoring approaches into rule.

Section 115.726 issues

TCC commented that the date in §115.726(a)(1)(A) should be extended due to new regulatory requirements and at a minimum, the commission should agree to reduce the 180 days to respond to a QAP/or submittal to QAP deficiencies. TCC also expressed concern that approval of the QAP will be delayed if the commission's reply to response to deficiency is delayed an additional 180 days and that the commission should respond to notice of deficiency responses within 45 days of receipt. TCC expressed concern that approval of the QAP will be delayed if the commission's reply to response to deficiency is delayed an additional 180 days and that the commission should respond to notice of deficiency responses within 45 days of receipt. TCC proposed that the rule clarify that the monitoring equipment must be installed within 60 days after approval of the QAP. TCC commented that the commission should clarify the amount of time the agency needs to reply to an operator's response to a notice of deficiency. ExxonMobil, MCC, and TxOGA commented that they want the requirements in §115.726(a)(1) and (2) for the submission of QAPs and test plans to be moved from April 30, 2005, to September 30, 2005. The commenters cited recent rule modifications as the reason that this date should be moved. The commenters also stated that the time required to review and approve plans should be reduced. SUNOCO commented that the commission will be receiving numerous QAPs required under §115.726(a) to be submitted for review and approval, and that the commission may not be able to address all of the plans. SUNOCO suggested that, rather than requiring prior review and approval of all QAPs, the commission adopt the same approach for the QAPs required under §115.726(a) as is

provided for monitoring plans required under §115.725(a)(4), which specifies that the plans must be submitted within 30 days upon request by the executive director. ATOFINA-Petrochemicals and Basell suggested that instead of having to submit the QAP to the executive director in accordance with §115.726(a)(1)(C), QAPs should be made available within 30 days upon request of the executive director. ATOFINA-Petrochemicals and Basell stated that this method would reduce strain on an already busy commission staff and is similar to other written technical data required in the proposed rules.

The commission agrees with the changes suggested by ATOFINA-Petrochemicals, Basell, and SUNOCO and revised the rule regarding the submission and approval of QAPs and test plans. The revised rule requires written QAPs and test plans to be developed, implemented, and followed; however, QAPs are only required to be submitted upon request by the executive director. Test plans are required to be submitted to the Houston regional office with the test notification required under §115.726(a)(2) to provide the regional office the opportunity to request a pretest meeting and observe the testing, but do not require specific approval. However, any modifications or alternatives to the monitoring requirements or methods specified in the rule must still be approved by the executive director. Any such requests must be specifically approved in written response from the commission, and default approval of requests will not occur. Owners or operators of affected facilities shall comply with all requirements of the rules until any such site-specific request has been approved. This approach to reviewing and responding to modifications and alternative requests is consistent with the other commission procedures to address such requests regarding other state rule and permit monitoring requirements. This

revision to the rule requirements also addresses the TCC comments regarding the dates for submitting QAPs and test plans, responding to a notice of deficiency, and the commission's response time.

GHASP expressed concern that the commission will fail to adequately review QAPs for flares and cooling towers and test plans for vent testing, and that current permitting activity will not be adequately coordinated with implementation of the new rules. Sierra Club objected to automatic approval of the test plan, as provided under §115.726(a)(2)(C), if the commission has not approved or provided a deficiency letter within 45 days. Sierra Club stated that automatic approval would exert pressure on the commission to approve test plans that are not reviewed or are given insufficient review due to the lack of personnel or the lack of adequate training. Sierra Club suggested a longer time period of 120 days.

As noted previously in this preamble, the commission revised the rule regarding the submission and approval of QAPs. The revised rule requires written QAPs to be developed, implemented, and followed, but the QAPs only required to be submitted upon request by the executive director. Any modifications or alternatives to the monitoring requirements or methods specified in the rule must still be approved by the executive director. Any such requests must be specifically approved in written response from the commission, and default approval will not occur. Owners or operators of affected facilities must comply with all requirements of the rules until any such site-specific request has been approved. This approach will allow the commission to focus staff resources on the critical aspects of the monitoring and testing, i.e., modifications or alternatives to the monitoring and testing requirements, and is consistent with the other commission procedures

to address such requests regarding other commission rule and permit monitoring requirements. With regard to the GHASP comment on the coordination of the implementation of the new rules and current permitting activity, Chapter 115 is an applicable requirement under Chapter 122. Therefore, owners or operators subject to the federal operating permit program must revise their Title V operating permits to include the revised Chapter 115 requirements for each unit subject to the requirements of Chapter 115, Subchapter H.

Dow expressed a belief that the requirement in §115.726(a)(2)(B) to submit a test plan 60 days prior to making the change is impractical in certain situations because of the small process changes that may occur from time to time that cause new sources of HRVOC to be created. Dow suggested that the requirement be changed to only require test plan submittal prior to being placed in HRVOC service.

The commission revised the rule regarding the submission and approval of test plans. The revised rule requires written test plans to be developed, implemented, and followed. However, the revised rule only requires the test plans to be submitted to the Houston regional office with the test notification required under §115.726(a)(2) at least 45 days prior to testing to provide the regional office the opportunity to request a pretest meeting and observe the testing. Specific approval of the test plans is not required. As noted previously in this preamble, any modifications or alternatives to the monitoring requirements or methods specified in the rule must still be approved by the executive director.

ExxonMobil, MCC, and TxOGA opposed the use of the term "all" in §115.726(a) - (d) and (h) to describe process information and suggested revising the rule to specify that only records of related process information are necessary.

The commission does not consider the suggested change necessary. The recordkeeping requirements in §115.726 for process knowledge already specify process knowledge used for a specific determination or to satisfy a requirement of the rule.

ExxonMobil, MCC, TCC, and TxOGA expressed a belief that the expectation that hourly emissions would be available on a near real-time basis is impossible. ExxonMobil, MCC, TCC, and TxOGA commented that they would like the requirements regarding maintenance of records of monitoring and emissions to more clearly specify the expectation of timeliness of the emissions calculations completion.

The commission's intent is that emissions be recorded hourly. While it is not necessary to record the hourly emissions in the same hour that they were collected, the record must be made before the end of the following hour.

Dow suggested changes to §115.726(b)(2) and (c)(2) to clarify that hourly parameter monitoring records should be complete if 95% of the data is complete over the period versus the period in which compliance is being assessed.

The commission agrees that a minimum data availability requirement for the parameter monitoring should be specified in the rule; however, the section in which to specify this requirement is the applicable parameter monitoring section. The commission changed §115.725 accordingly.

Dow suggested that the commission make slight revisions to the recordkeeping requirements in §115.726(c)(1) for PRV discharges. Specifically, Dow suggested that the requirement to keep a record of the volumetric flow be deleted and that the requirement to keep a record of the total HRVOC emission rate on a pounds per hour basis is sufficient.

While process knowledge is allowed for determining HRVOC emissions in accordance with §115.725(c)(2), the owner or operator is required to use the flow rate determined according to §115.725(c)(1) when calculating the emissions. The intent of the PRV monitoring requirements is to allow owners or operators to use process knowledge for the purposes of estimating the HRVOC constituents in the gas stream exiting the PRV, but the volumetric flow rate must be either monitored directly or indirectly through parameter monitoring. Records of the volumetric flow rate are required to demonstrate compliance with all requirements applicable to PRVs; therefore, the commission has not made the suggested change.

ExxonMobil, MCC, and TxOGA expressed a belief that the requirements in §115.726(d)(3) to maintain all records related to corrective actions during monitor downtimes to be unnecessary. The commenters stated that this regulatory compliance issue should not be mandated in the this rule. ExxonMobil,

MCC, and TxOGA commented that the requirement to maintain a high on-stream performance is sufficient to assure monitoring reliability. Moreover, ExxonMobil, MCC, and TxOGA expressed a belief that records and information related to corrective actions and delays in corrective actions should only be used voluntarily by a site as a consideration in enforcement actions related to failure to maintain the 95% on-stream performance.

The commission disagrees with the commenters that records of corrective actions during monitor downtimes are unnecessary. Maintaining such records are necessary for field investigators to verify that on-line monitors are meeting the minimum 95% data availability specified in the rule and that owners or operators are making good faith efforts to properly maintain and operate monitors. Therefore, no changes to the rule have been made as a result of this comment.

TCC commented that because owners and operators are obliged to comply with an annual cap, documentation of corrective actions as required in §115.726(d)(3) is an additional, unnecessary burden.

The recordkeeping of corrective actions required in §115.726(d)(3) is for corrective actions made to the continuous monitoring systems during monitor downtime, not the corrective actions an owner or operator may take to assure compliance with an annual cap. As previously noted, maintaining such records are necessary for field investigators to verify that on-line monitors are meeting the minimum 95% data availability specified in the rule and that owners or operators are making good faith efforts to properly maintain and operate monitors. Therefore, no changes to the rule have been made as a result of this comment.

BP and TCC stated that the commission should clarify that companies may test a representative group of process heaters (5% or 10%) or may use a hand-held flame-ionizing detection device in order to meet the recordkeeping provisions of existing §115.726(d)(3) and to document the contribution of process heaters towards the overall requirement that the sum of all vent gas streams claimed under the exemption must be less than 5% of the HRVOC cap. BP stated that historical stack test data indicates that total VOC emissions are much lower than AP-42 factors suggest, even with fuel HRVOC compositions above 5%. BP requested that the commission comment on the need to test each and every heater firing fuel greater than 5% HRVOCs to document compliance with the exemption.

Preliminary testing or prior test data are examples of methods that could be used to determine if vent gas streams might meet the exemptions provided. The rule provides flexibility as to the methods that owners or operators may use to demonstrate vent gas streams meet this exemption and it is the requirement of the owner or operator to determine the records that are needed to show compliance with the exemption.

Sierra Club commented that §115.726(a)(1)(B) should require submittal of a QAP 60 days prior to use of the HRVOC process so that the commission would have the opportunity to review the QAP before use of the process begins. Sierra Club also objected to automatic approval of the QAP, as provided under §115.726(a)(1)(C) and §115.766(i)(3), if the commission has not approved or provided a deficiency letter within 180 days. Sierra stated that automatic approval would exert on the commission to approve QAPs that are not reviewed or given insufficient review due to the lack of personnel or the lack of adequate training. Sierra Club suggested a longer time period of 270 days.

The commission revised the rule regarding the submission and approval of QAPs. The revised rule requires written QAPs to be developed, implemented, and followed, but the QAPs are only required to be submitted upon request by the executive director. Any modifications or alternatives to the monitoring requirements or methods specified in the rule must still be approved by the executive director. Any such requests must be specifically approved in written response from the commission, and default approval will not occur. Owners or operators of affected facilities must comply with all requirements of the rules until any such site-specific request has been approved. This approach will allow the commission to adequately review and respond to modifications and alternative requests. This is more consistent with the other commission procedures to address such requests regarding other commission rule and permit monitoring requirements.

Sierra Club requested that the "root cause" of the continuous monitoring system's downtime be required under §115.726(d)(3) and §115.766(a)(6).

Section 115.726(d)(3) and §115.766(a)(6) currently require that companies must maintain records that detail all corrective actions to the continuous emissions monitoring systems during any monitor downtimes and any delay in corrective action by documenting the dates, reasons, and durations of such occurrences. The commission considers maintaining records of the reasons for any monitor downtime to be sufficient to provide documentation for the cause of the monitor downtime, and has not made the suggested change.

Dow suggested that in §115.726(d)(5)(A) the recordkeeping requirements be amended to add the term, "nominal" to describe the size of the vessel being loaded. Dow commented that although the size of the loading vessel may appear to be straightforward, in some cases it may be difficult to obtain the exact size of the vessel because it is not usually owned or operated by the company that is loading the vessel.

It was not the commission's intent to require the exact size of the vessel in §115.726(d)(5)(A). The nominal size of the vessel is sufficient for the necessary calculations, and the rule has been revised as suggested.

ExxonMobil, MCC, and TxOGA stated that the recordkeeping specification for special case loading flares in §115.726(d)(5) should be specific to the information necessary to calculate the loading emissions.

All the information specified in §115.726(d)(5) is necessary for the calculation of HRVOC emissions. No change has been made in response to this comment.

Dow suggested that the requirement in §115.726(d)(5)(C) be amended such that the owner and operator would have to keep a record of any compound(s) present at a concentration of 1% by weight or higher in the vessel in order to avoid burdensome recordkeeping for compounds present in very low or trace levels.

The commission agrees with the commenter and revised §115.726(d)(5)(C), because keeping records of trace level compounds would be burdensome and would provide little benefit for the purposes of the rules.

Dow suggested changes to §115.726(d)(7)(B) to clarify that the volumetric flow should be recorded over the course of an individual event or even once for every 15-minute block period of time or for longer events.

The commission agrees with the commenter that the rule should be clarified and revised §115.726(d)(6)(B), (7)(B), and (8)(B) to indicate that the volumetric flow rate should be recorded in 15-minute block periods of time, or portion thereof for periods of operation shorter than 15 minutes.

TCC commented that there is no need to provide notice 15 days in advance as specified in §115.726(f) and that notification prior to the compliance date should be sufficient.

The commission agrees with the comment and changed the requirement in §115.726(f) to specify that notification must be submitted prior to the compliance date.

Allied stated that municipal solid waste landfill HRVOC emissions are either rare or *de minimis* and that EPA recognizes this fact because the HRVOCs listed in Chapter 115 are not included in the AP-42 profile of municipal solid waste landfill gas constituents. Allied recommended that the commission

revise §115.726(e)(3) to specify and appropriately minimize what is required in order for municipal solid waste landfills with vent gas streams or flares to handle municipal solid waste landfill gas to demonstrate continuous compliance with the §115.727 exemption criteria. Allied suggested that documentation of compliance with the exemption should be in the form of a written analysis demonstrating compliance based on process knowledge and engineering judgement, and that site-specific HRVOC sampling should be conducted and documented every five years.

The adopted rules contain exemptions that establish *de minimis* levels for the HRVOC rules. Specifically, vent gas streams that are not routed to a flare that has the potential to emit less than 100 ppmv HRVOC at all times or has a maximum potential flow rate less than 100 standard cubic feet per hour are exempt from the division, except for recordkeeping. Flares that at no time receive a total gas stream with greater than 100 ppmv HRVOC are exempt from the division with the exception of recordkeeping. It is the requirement of the owner or operator to determine the records that are needed to show compliance with the exemption. Therefore, the commission has not made the suggested change.

TCC and Dow commented that daily records should not be specified for a calendar year compliance requirement in §115.726(g) and §115.766(g).

The requirement to maintain daily records for demonstrating compliance with the annual cap is necessary to allow field investigators to ascertain the compliance status of a facility during a site inspection, which may occur at any time during the calendar year. The enforcement of the rules

would be eroded if facilities were only required to calculate their annual emissions relative to the long-term cap at the end of the compliance period. Therefore, the commission declines to make the suggested change.

Sierra Club questioned whether the cooling tower requirement in §115.726(g)(1) should be placed in Subchapter H, which deals with cooling tower heat exchange systems.

The rules cross-reference cooling towers, vents, flares, and PRV requirements to ensure proper accounting of all HRVOC emissions that contribute to the cap.

TCC commented that use of the term "hourly" in §115.726(h) is overly prescriptive.

The commission disagrees with the comment. The short-term limit in §115.722(c) is based on a one-hour time period, therefore, the records showing compliance with this limit must be based on the same time period. Therefore, the commission has not made the suggested change.

ExxonMobil, MCC, and TxOGA commented that the requirement in §115.726(i) to maintain records on site is not always practical.

The requirement to maintain records on site is necessary to ensure that field investigators performing a site inspection have adequate access to records necessary to complete the inspection. Also, the commission disagrees that maintaining records on site is not practical. Electronic

records can be used to minimize storage space for recordkeeping purposes, because the commission has not specified the media that with which the records must be maintained. No change to the rule was made in response to this comment.

Environmental Defense commented that the commission should require corrective action plans triggered by a violation of the HRVOC cap to include engineering solutions such as flare gas recovery, upstream process analysis, and installation of backup equipment and power supplies in addition to environmental management solutions.

The commission currently requires corrective action plans for emissions events that are determined to be excessive according to the provisions in Chapter 101, Subchapter F. The necessity, availability, and feasibility of engineering solutions will be dependent on the specific situation and site-specific conditions and it would be inappropriate to mandate engineering solutions for all cases. Additionally, the concept of additional corrective action requirements was not included in the published proposal and is beyond the scope of this rulemaking. Therefore, no change has been made to the rule.

Section 115.727 issues

EPA supported the deletion of the exemption for startup, shutdown, and emissions events from §115.727.

The commission appreciates the comment.

TCC commented that the commission should change the reference from "any account" to a "process unit" for flares and stated that the exemption in §115.727(a), as written, is of very limited use.

The commission revised §115.727(a) to specify "any site" rather than "any account" to be consistent with the terminology in §115.722. However, the commission intends for the exemption to be on a site-wide basis because the the exemption applies to control requirements in §115.722(a) - (c) that are on a site-wide basis.

Allied stated that §115.727(a) should be revised to correctly reflect that the new site-wide cap and control requirements to which the §115.727(a) exemption applies are in §115.722(a) - (c).

The commission agrees with the commenter and revised the rule language.

BP expressed a belief that process heaters with bridgewall temperatures above approximately 1,150 degrees Fahrenheit and excess oxygen levels above 3% adequately combust hydrocarbons to levels below 100 ppm, including HRVOCs in the fuel, and therefore, meet the exemption in §115.727(e)(2). BP stated that it conducted a test of several heaters with a range of fuel gas compositions and bridgewall operating temperatures typical for refinery heaters. The testing included HRVOC content in the fuel gas in excess of 20% and resulted in stack HRVOC concentrations well below 0.5 ppm, with most tests showing less than 0.1 ppm. ExxonMobil, MCC, and TxOGA stated that the exemption in §115.727(c)(3)(A) for combustion sources that have less than 5% by weight HRVOC in the fuel gas is

overly restrictive. ExxonMobil, MCC, and TxOGA commented that these combustion sources have very high levels of combustion efficiency and HRVOC destruction.

The adopted rules contain exemptions that establish *de minimis* levels for the HRVOC rules. Specifically, vent gas streams that are not routed to a flare that has the potential to emit less than 100 ppmv HRVOC at all times or has a maximum potential flow rate less than 100 cubic feet per hour are exempt from the division, except for recordkeeping, provided the sum total of the HRVOC emissions from all vent gas streams claimed under this exemption do not exceed the *de minimis* levels. The combination of the vent gas stream exemptions in §115.727(c)(2) with the exemption in §115.727(c)(3)(A) is not overly restrictive and provides sufficient flexibility for owners or operators to exempt sources that are truly insignificant in relation to the site-wide caps. Tests conducted on a few refinery heaters is not sufficient to warrant a blanket exemption for process heaters based on operating conditions or raising the exemption level specified in §115.727(c)(3)(A). Furthermore, the recordkeeping requirements of §115.726(e)(3) are flexible and it is the requirement of the owner or operator to determine the records that are needed to show compliance with the exemption. Therefore, the commission has not made the suggested change.

Allied, Dow, ExxonMobil, MCC, and TCC stated that the proposed change to §115.727(b)(2) that revised the reference to a monitoring and testing requirements provision from §115.726(d) and (e) to §115.725(d) is incorrect, because §115.726(d) is a recordkeeping and recording requirements provision, not a monitoring and testing requirements provision. ExxonMobil, MCC, and TxOGA also commented

that the reference to continuous monitoring requirements in §115.727(b) should read §115.725(d). In addition, ExxonMobil, MCC, and TxOGA expressed a belief that the exemption in §115.727(b) from continuous monitoring for flares that at all times receive less than 5% HRVOC should apply to all flares, not just flares subject to §115.725(d).

The commission agrees with the commenters and has corrected §115.727(b)(2) to reference the appropriate monitoring and testing requirements section. The commission also agrees with the commenter that the exemption should apply to all flares and has made the suggested change.

ExxonMobil, MCC, and TxOGA expressed concern that the use of exemptions in §115.727(c)(2) for vent gas streams with the potential to emit HRVOCs not routed to a flare, but that have HRVOC concentrations less than 100 ppmv at all times or maximum potential flow rates of less than 100 dry standard cubic feet per hour, is limited to a site total (in pounds per hour) of 5% of the HRVOC cap. Because the HRVOC site cap is no longer on a pounds per hour rate, the limitation is invalid unless it applies to the short-term cap of 1,200 pounds per hour. ExxonMobil, MCC, and TxOGA suggested revising the exemption to be 5.0 pounds per hour and ten tons per year or 5% of the annual HRVOC site cap, whichever is greater.

The commission agrees that the exemption level should be on the same basis as the annual cap and revised the rules. Additionally, adopted §115.727(c)(2) is revised to specify that the maximum potential HRVOC emissions from all vent gas streams claimed under the exemption must be less than 0.5 tons per year. The commission contends that the *de minimis* levels for the exemption

suggested by the commenters of 5.0 pounds per hour and ten tons year are excessive and would allow a significant percentage of emissions to be exempted from some sources with small caps.

TCC and Dow commented on §115.727(c)(2) that because the HRVOC caps are being removed from the cap for replacement with a production-based cap and trade system, the owner/operator has no way to accurately determine what constitutes 5% of the HRVOC cap prior to the test plan submittal date of April 30, 2005. TCC suggested that the owner/operator be allowed to use process knowledge and engineering calculations to determine the hourly and annual HRVOC emission rates for all sources meeting this criteria because these types of sources typically have very low HRVOC emissions. Celanese stated that the commission should define the vent concentrations and flows that are exempt from the HRVOC vent rule. One of the current HRVOC vent exemptions is based on concentration (current rule) or flow (proposed rule), with the maximum exemption of 5% of the site-wide annual cap. The site-wide annual caps will not be set until almost a year after the QAP and test plans have been submitted and after the required testing has been completed; therefore, certain vents may prove to be exempt after testing and parameter monitoring development. Celanese suggested that at a minimum, streams with less than 100 ppmv of HRVOC or flows less than 100 standard cubic feet per hour should be exempted from the testing and monitoring requirements, and the use of engineering calculations should be allowed for those streams. Celanese suggested that as an alternative the maximum amount to be exempted for a site could be based on the proposed hourly cap.

The commission revised §115.727(c)(2) to specify a *de minimis* of 0.5 tons per year. The revision deletes the language that specified a *de minimis* of 5% of the annual cap. Additionally, the

requirements for the test plans have been revised and the requirement to submit test plans by April 30, 2005, has been removed. The test plans are only required to be submitted with the test notification at least 45 days prior to testing. Test plans are not specifically required to be approved; only modifications or alternatives to test methods or monitoring would specifically require approval. Furthermore, the rule provides flexibility regarding the methods that owners or operators may use to demonstrate that vent gas streams meet this exemption. In addition, the owner or operator is required to determine the records that are needed to show compliance with the exemption. Preliminary testing or prior test data are examples of methods that could be used to determine if vent gas streams might meet this exemption.

Allied stated that §115.727(d) incorrectly refers to a nonexistent §115.726(c)(3)(B) and that the intended citation should be §115.726(e)(3)(B).

The commission agrees with the commenter and has corrected the reference in §115.727(d).

Section 115.729 issues

TCC commented that §115.729(1) and (1)(A) should be combined for clarity.

The commission agrees with the comment and has revised the rule accordingly.

SUNOCO commented that the commission should revise §115.729(1)(A), which requires owners or operators of vent gas streams and PRVs that become subject to the testing and monitoring requirements

of §115.725 after December 31, 2005, to complete testing and monitoring as soon as practicable, but no later than 60 days after being brought into HRVOC service. SUNOCO suggested using language similar to 40 CFR §60.8(a), that would require testing and monitoring to be completed "within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after being brought into HRVOC service." ATOFINA-Petrochemicals and Basell also recommended that the compliance schedule in §115.729(1)(A) be revised to be consistent with 40 CFR §60.8(a). ATOFINA-Petrochemicals and Basell stated that this change will provide consistency with NSPS testing and monitoring requirements and will also allow facilities to avoid testing of a source before it has reached its maximum production rate, resulting in more representative test results.

While the suggested time frame would be consistent with EPA regulations in 40 CFR §60.8(a), it is not consistent with other commission rules for attainment demonstrations, such as 30 TAC Chapter 117. For example, Chapter 117 specifies 60 days after startup following installation of emissions controls. Additionally, the time to begin testing and monitoring must be minimized for sources that become subject to the rules after the compliance date, but the site in which the source is located is already subject to the site-wide caps in §115.722. Therefore, the commission has not made the suggested change. In response to other comments, however, the commission revised §115.729 such that paragraph (1)(A) is not subsection (a)(1).

ExxonMobil and TxOGA commented that they want all compliance dates extended again. They want the cap compliance date to be extended to April 1, 2007, to submit test plans and QAPs by September 30, 2005, to have approved test plans and QAPs by March 31, 2006, and they want to implement

testing and monitoring by December 31, 2006. TCC proposed that testing of an individual vent gas stream should occur within 60 days of approval of the test plan. TCC also commented that the compliance dates associated with vent gas streams and PRVs should be extended as follows: submittal of test plan for vent gas streams to September 30, 2005; compliance testing for vent gas streams to July 6, 2006, or align with the beginning of the initial control period if that date is revised to later than July 6, 2006; and parameter monitoring to July 6, 2006, or align with the beginning of the initial control period if that date is revised to later than July 6, 2006. TCC commented that the date in §115.726(a)(2)(A) should be revised to September 30, 2005, due to additional regulatory requirements. Dow also commented that additional time should be provided to meet the monitoring requirements in §115.725. BCCA-AG supported the ongoing revisions to the HGB SIP and associated rules, but expressed strong concern that the combination of rule adoption delays, combined with the retention of early compliance dates for new HRVOC rules, will result in a program for which timely compliance is seriously jeopardized.

With the exception of the cap compliance date, the commission previously extended all deadlines in Divisions 1 and 2 by one additional year. Because the HRVOC rules were originally adopted in December 2002, the commission contends that sufficient time has been afforded to owners and operators to prepare. Furthermore, the revision to the QAP and test plan provisions of the rules no longer constrains owners or operators to wait for approval of a QAP or test plan. The commission has not changed the compliance deadlines with regard to the testing and monitoring requirements; however, the commission agrees that additional time is needed to make the necessary emissions reductions to demonstrate compliance with the emissions specifications. All

sites in Harris County must comply with HRVOC emissions cap and trade program by January 1, 2007. Harris County sites subject to the short-term limit in §115.722(c)(1) and Harris County sites subject to the annual emissions specification in §115.722(b) must continue to comply with the April 1, 2006, compliance date. However, the commission adopts §115.727(f) and §115.767(6) to specify that all sites subject to Divisions 1 and 2 that are located in the HGB ozone nonattainment area, excluding Harris County, are exempt from §115.722(b) and (c)(2) and §115.761(b) and (c)(2). The commission adopts §115.729(a)(3) and §115.769(a)(3) that specify the exemptions in §115.727(f) and §115.767(6) will no longer apply upon public notice of revocation by the commission. Upon revocation of these exemptions, sites subject to these divisions located in the HGB ozone nonattainment area, excluding Harris County, must comply with the compliance schedule or within 180 days of public notice, whichever is later.

Division 2

Section 115.760 issues

Dow suggested that the commission consider defining the terms non-HRVOC and HRVOC process units. Dow provided a proposed definition.

The suggested change is not necessary because the rule provides a *de minimis* level of HRVOC in the exemptions that will determine what is considered to be a non-HRVOC process. No change has been made to the rule in response to this comment.

Dow suggested that the term "site" should not be added to §115.722(c) and that the regulated entity should be the account. Dow commented that emissions points are assigned to an account and that the site cap information will be based on emissions collected for an account. Dow commented that is it is much easier to identify and validate compliance for areas that belong to an account rather than areas that belong to a site, because accounts have usually been previously identified through permitting or the air emissions inventory. ExxonMobil and TxOGA expressed a belief that the term, "account" should be changed to "site" in §115.760(a). ExxonMobil and TxOGA cited inconsistencies in facilities having single or multiple account numbers. They further commented that because site-wide cap allocations are proposed to be based on information other than past inventories, any reference to applicability by account is unnecessary. ExxonMobil and TxOGA also suggested that applicability should be assigned to a site, defined as a facility or facilities with common ownership and under common control. MCC commented that the commission should modify the proposed vent gas and cooling tower heat elimination system rules to apply to "sites" rather than "accounts." MCC commented that this change would aid in consistency and clarity. MCC also commented that the reference to an "account" in §115.760(a) should be changed to the term "site" because there are considerable inconsistencies in facility account numbers. MCC also suggested that "site" be defined as a facility or facilities with a common owner and under common control. MCC commented that the reference to an "account" in §115.720(a) should be changed to the term "site" because there are considerable inconsistencies in facility account numbers. MCC also suggested that "site" be defined as a facility or facilities with a common owner and under common control. TCC commented that the commission should not penalize companies based on existing air accounting principles and that the terms "site" and "account ," which are used interchangeably in this proposal, cause confusion and should be defined and reviewed for

consistency between regulated entities. TCC suggested that the term "site" apply to those stationary sources located on one or more contiguous or adjacent properties, which are under common control of the same person and each have the same two-digit major group standard industrial classification code. TCC commented that the terms in §115.760(a) and §115.761(a) - (c) "site" and "account," which are used interchangeably in this proposal, cause confusion and should be defined and reviewed for consistency between regulated entities. TCC suggested that the term "site" apply to those stationary sources located on one or more contiguous or adjacent properties, which are under common control of the same person and each have the same two-digit major group standard industrial classification code. EPA commented that §115.722 now refers to emissions from a "site" rather than from an "account" and stated that a clear definition of site seemed necessary for implementation of the rules.

The commission agrees with the commenters that the interchangeable use of the terms "site" and "account" is inconsistent. Therefore, in order to conform to the Chapter 101 HRVOC cap and trade rules, the term "account" has been replaced with the term "site" throughout this subchapter. The term "site" is defined in §122.10.

TCC expressed concern that the 1,200 pounds per hour limit in §115.760 is not technically feasible to meet during certain upset conditions associated with some hydrocarbon plants. TCC commented that the final rule needs to be adjusted so that owners and operators who use good control technology to reduce emissions associated with upsets are not penalized.

The impact to the annual cap due to exceedances of the short-term 1,200 pounds per hour limit has been minimized. Any hourly exceedance above 1,200 pounds per hour will be a violation of the short-term limit, but only 1,200 pounds per hour of the exceedance will be attributed toward the calculation of the long-term cap. The cap and trade program in Chapter 101 is based on production and should allow owners and operators of sites with various levels of control to buy and sell HRVOC allowances in the marketplace to alleviate any perceived inequity. Sites that install and operate more efficient control equipment prior to the required compliance date should benefit, because the HRVOC allocations are based on production and use rather than actual HRVOC emissions.

Kaneka commented that the definition of a "cooling tower heat exchange system" in §115.760(b) is overly broad and could result in unintended systems being included in this definition and required to comply with this rule. Kaneka commented that it has a batch reactor process that is cooled by circulating water from a cooling tower through a jacket on the outside of the reactor. Kaneka commented that while this system meets the definition of "cooling tower heat exchange system" in §115.760(b), the system is really a nontraditional heat exchanger because heat is exchanged, but not in the traditional manner (i.e., with a shell and tube heat exchanger). Kaneka further commented that the jacketed reactor is not expected to fail in a manner that would allow process material (in this case 1, 3-butadiene) to leak into a cooling water system. Kaneka commented that there are two possible ways to address this differing kind of system. First, Kaneka stated that the definition could be changed to "traditional cooling tower heat exchange system" so that an exemption could be added to §115.768 addressing non-traditional sources like jacketed reactors. The second option suggested by Kaneka is to

add a second sentence that excludes jacketed reactors from the definition of "cooling tower heat exchange system."

The commission maintains that non-traditional systems such as jacketed reactors should be subject to the requirements of the division. However, because these systems are considered to be less likely to leak, the rule was revised to allow cooling towers in dedicated service to jacketed reactors to be monitored according to the same requirements for cooling towers with circulation rates less than 8,000 gpm. A definition of a jacketed reactor has also been specified in adopted §115.760(b)(2).

TCC commented that the commission should consider HRVOC refrigeration machines as a separate cooling tower heat exchange system with alternate monitoring options. TCC commented that the commission should consider an alternate monitoring method for refrigeration machine systems based on inventory determined by level monitoring. Celanese and Enterprise commented that the commission should consider HRVOC refrigeration machines as a separate cooling tower heat exchange system with alternate monitoring options. Celanese and Enterprise commented that this allows units that contain both <5% HRVOC in the unit and refrigeration machines to implement alternative monitoring methods. Celanese and Enterprise recommended modifying the definition of cooling tower heat exchange system to reflect this change. Celanese and Enterprise suggested an alternate monitoring method based on inventory determined by level monitoring be used for refrigeration machine systems. Additionally, Celanese and Enterprise suggested that an alternate calculation method for maximum

potential cooling water flow through the refrigeration system be allowed as an alternative to a flow meter.

The commission agrees that systems containing a finite volume of HRVOC, such as the refrigeration systems described by the commenters, should be allowed an alternative to the continuous on-line monitoring requirements in §115.764(a). Therefore, the commission added alternate monitoring options for this type of system in adopted §115.764(h) and specified additional recordkeeping requirements for these types of systems in adopted §115.766(a)(7). Also, §115.760(b) has been revised to include a definition of a "finite volume system" as a system in which a fixed amount of HRVOC is contained or circulated, and changes in the amount of HRVOC in the system can only occur through transfers into the system to maintain the system level, transfers out of the system for maintenance purposes, or leakage out of the system.

Section 115.764 issues

GHASP commented that the commission should consider whether extending cooling tower requirements to units that circulate at least 3,000 gpm would provide significant additional emission control benefits. GHASP suggested that the commission could implement a lower threshold for Harris County only in §115.764. Sierra Club suggested that the requirements in §115.764(b) be expanded to include all cooling towers that circulate 3,000 gpm instead of 8,000 gpm.

The commission currently requires 3,000 gpm cooling towers to conduct periodic testing under this rule and does not foresee a significant benefit to requiring continuous monitoring for a 3,000

gpm cooling tower over an 8,000 gpm cooling tower. Furthermore, if the commission were to make the suggested change, owners and operators may not have sufficient time to comply with the December 31, 2005, compliance date. Therefore, no changes were made in response to this comment.

TCC commented that the commission should agree that the grouping of butenes is acceptable for purposes of determining speciated strippable HRVOCs.

The commission previously stated in the adoption of the technical corrections to Chapter 115, Subchapter H, as published in the November 7, 2003, issue of the *Texas Register* (28 TexReg 9847), that speciation of individual butenes is not necessary. However, in the interest of furthering the commission's understanding of the science of HRVOC, the commission requested 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 HGB area are cis- and trans 2-butenes.

TCC commented that the multi-point calibration in §115.764(a)(6) and (b)(6) should be consistent with §115.725(d)(2)(A)(i) to indicate that mid-level calibration check procedures in Section 10.2 of 40 CFR Part 60, Appendix B, Performance Specification 9 can be performed at least once every calendar week. This is in addition to language already proposed that allows calibration to be performed once every calendar quarter. ExxonMobil and TxOGA requested that the mid-level calibration procedure in Section 10.2 of performance Specification 9 be changed to require only once per week instead of daily.

The on-line analyzers used to monitor as specified in §115.764(a)(6) and (b)(6) will be required to achieve a better sensitivity than the monitors required under §115.725(d)(2), because the expected concentrations of strippable HRVOC will be in the low ppmv range or possibly less than one ppmv. Problems that affect the performance of the analyzer may be more common when monitoring at low concentrations. The commission maintains that more frequent calibration checks are necessary for monitoring systems required in §115.764(a)(6) and (b)(6) to ensure proper performance of the analyzer and has not made the suggested change.

TCC commented that §115.764(a)(6) and (b)(6) should be made consistent with §115.764(a)(5) and (b)(5).

Subsections (a)(6) and (b)(6) are alternative monitoring requirements to subsections (a)(5) and (b)(5), respectively. The commission contends that the rules are consistent, and therefore, has not made the suggested changes.

Dow and TCC suggested that the commission clarify in §115.764(a)(1) that the requirement to measure total cooling water return flow to within +/-5% accuracy would allow for unmeasured bypass flows which are occasionally diverted upstream of the continuous flow monitor (for reasons such as freeze protection bypass lines, chemical treatment lines, etc.), provided that such flows are significantly less than total return flow such that the 5% accuracy requirement on total flow is met at all times. Dow and TCC also requested that the commission clarify that recent historical volumetric flow rate data can be substituted during times of bypass if larger flows are diverted to the cooling water basin. ExxonMobil

and TxOGA commented that they would like the commission to add §115.764(h) regarding flow monitoring locations and bypass lines. ExxonMobil and TxOGA suggested that flow monitoring should be allowed to be located at any point that represents the total flow of cooling water returning to the cooling tower. TCC commented that the commission should revise these rules to allow installation of continuous flow monitors at "a representative location to the cooling tower" in lieu of a requirement to install "on each inlet."

The commission agrees that owners or operators should be allowed to select a flow monitoring location that represents the total flow rate to the cooling tower and revised §115.764(a)(1) and (b)(2) to allow this. The commission has not made the suggested change to allow the bypass to not be monitored, because sufficient flexibility has been provided in the rules to allow owners or operators to find a suitable monitoring location to monitor total flow.

Dow suggested that the commission revise the requirements in §115.764(a)(1) and (b)(1) to replace the word "calibration" with the word "verification." Dow stated that a true calibration would require removing the flow meter from service and comparing it against a reference meter or installing a master meter in parallel. Dow stated that verification would assure that a meter, which has already been "type certified" to be accurate within plus or minus 5% by the manufacturer in a flow lab, is in fact installed and configured correctly in the field.

The term "calibration" is consistent with the terminology used for these requirements in other state rules and federal regulations; therefore, the suggested change has not been made.

Dow commented that the commission should modify §115.764(a)(2) and (6), and (b)(6) to clarify that approved modifications to Appendix P of the commission's sampling procedures manual can also be used as the sampling approach for collection of all grab samples.

The suggested change is not necessary. If a requested modification to Appendix P has been approved as provided in §115.764(f), then the approval would be applicable to §115.764(a)(2) and (6) and (b)(6), unless otherwise specified in the site-specific approval. Therefore, no change has been made to the rules in response to this comment.

Dow commented that §115.764(a)(6) and (b)(6) does not specifically define when the first grab samples have to be taken in cases where the online analyzer goes down. Dow suggested that the commission clarify that the first grab sample has to be taken within 36 hours for §115.764(a)(6) and within 72 hours for §115.764(b)(6). TCC commented that the commission should clarify when monitoring begins for purposes of this rule, and suggested 72 hours after continuous monitor outage. ExxonMobil and TxOGA commented on §115.764(a)(2) and (6) and (b)(6) stating that manual sampling should not be required for shorter outages. The commenters expressed a belief that the length of outage that triggers the requirement for manual sampling should allow sufficient time to schedule appropriate personnel. ExxonMobil suggested that when handling data in analyzer outages for calibrations or any other reason for any outage less than 24 hours, the owner or operator should use the average of the last good value and the first good value following the outage. For each outage of 24 hours or greater, the owner or operator should use the results of at least one manual sample taken during that period. TCC also commented that the commission should allow operators that install both a sampling system and a

monitoring system to use the sampling system in lieu of Appendix P of the commission's sampling procedures manual and that the systems should be approved in the QAP.

The commission agrees that the duration of continuous monitor downtime necessary to trigger manual sampling and the data handling procedure during these events should be specified in the rule. Section 115.764(a)(1) and (6) and (b)(6) has been revised to specify that manual sampling is required when the downtime of the monitoring system is 24 hours or greater. A procedure for data handling and recordkeeping during monitor downtime periods has also been provided in §115.764(a)(6) and (b)(6). The commission also agrees that because the sampling system has been validated using EPA Method 301 in 40 CFR Part 63, Appendix A, to be equivalent to the air-stripping system in Appendix P of the commission's sampling procedures manual, then that sampling system would be acceptable for collecting samples for speciation when only the analyzer portion of the monitoring system is down. Section 115.764(a)(6) and (b)(6) has been revised to allow this option.

ExxonMobil and TxOGA requested clarification on the calculations in §115.764(a)(3) and (b)(3) to continuously operate monitoring systems at least 95% of the time. Specifically, ExxonMobil, MCC, and TxOGA asked whether the normal calibration time is subtracted from the total operating time or from the monitor outage time.

Normal calibration time would be included in the total operating hours with valid quality-assured data when determining the percent measurement data availability as specified in §115.725(d)(3) and §115.764(a)(3) and (b)(3).

ExxonMobil, MCC, TCC, and TxOGA commented on §115.764(a)(5) and (b)(5), suggesting that when the cooling water strippable VOC concentration is greater than 50 ppb, then additional sampling should begin the next calendar day to allow for scheduling personnel and equipment.

The commission agrees and has made the suggested change to §115.764(a)(5) and (b)(5).

TCC commented that the commission should revise §115.764(a)(5) and (b)(5) to trigger daily sampling based on concentrations of total HRVOC greater than or equal to 50 ppb.

The requirements in §115.764(a)(5) and (b)(5) are based on the approach of monitoring and testing for total strippable VOC as an indicator for the presence of HRVOC, as this approach is more cost effective than requiring continuous monitoring and testing for HRVOC. The suggested change would require owners or operators to monitor and test for HRVOC specifically in order to determine if the HRVOC concentration in the water has exceeded 50 ppbw, unless all heat exchangers in an affected cooling tower heat exchanger system were in 100% HRVOC service. The commission provided the option to continuously monitor HRVOC in §115.764(a)(6) and (b)(6) in previous rulemaking. If this option is selected, the 50 ppbw action level is no longer applicable. Therefore, the commission has not made the suggested change.

ATOFINA-Petrochemicals expressed a belief that speciation of strippable VOC represents a significant and unnecessary capital expense and an ongoing maintenance expense that can be avoided if all detected VOC is reported as HRVOC, based on process knowledge. ATOFINA-Petrochemicals recommended that §115.764(a)(5) be revised to allow facilities to forego the daily sampling requirement of cooling tower inlet water if the affected facility agrees to a more conservative interpretation of sample results and reports all detected VOC as HRVOC. SUNOCO also suggested that facilities be allowed to report all total strippable VOC results as HRVOC based on process knowledge rather than perform sampling and analysis to determine speciated HRVOCs.

The total strippable VOC monitoring is not intended to be used for HRVOC quantification purposes, but to serve as an indicator of strippable VOC in the cooling water at or above the action level. The approach suggested by the commenters may be acceptable for some situations, and facilities considering this suggested approach may submit a request under the provisions for modifications and alternatives in §115.764(f). This will allow site-specific technical concerns to be addressed on a case-by-case basis. Therefore, the commission has not made the suggested change.

ExxonMobil, MCC, and TxOGA commented that the option of providing direct continuous monitoring of strippable HRVOCs in §115.764(a)(6) and (b)(6) should be in place of all monitoring of strippable VOCs and periodic monitoring of total and speciated HRVOCs, except for when the online strippable HRVOC monitoring system is down.

The commission does not consider the suggested change necessary. The option to perform direct continuous monitoring of strippable HRVOCs is provided in §115.764(a)(6) and (b)(6). Section 115.764(a)(6) and (b)(6) exempts owners or operators from the other monitoring or periodic testing requirements of §115.764(a)(2), (4), and (5) or (b)(2), (4), and (5), as applicable. Owners or operators electing to monitor according to §115.764(a)(6) and (b)(6) are only required to perform periodic testing during out-of-order periods of the on-line monitors. No change has been made to the rule.

Dow suggested that the commission add another option to §115.764(e) to allow the measurement of cooling water supply flow, prior to the heat exchangers.

The commission agrees as long as the monitoring location is representative of the total flow. Adopted §115.764(g)(2) has been added to provide this option.

Dow commented that it would like the commission to clarify in §115.766(e)(1) that pump performance information provided by the manufacturer or pump performance information provided by a third party is sufficient documentation to use the, "pump curve run out" method for determining cooling water flow. Dow stated that in some cases, for existing pumps, only a generic pump design curve without specific test data is available to make these determinations. Dow stated in other cases, a pump curve may not be available from the original manufacturer, especially if the pump is an older pump and the manufacturer is no longer in business. Dow commented that some of the recordkeeping requirements in §115.766(e) and (f) present a significant challenge for older pump systems. Dow suggested that the

rule allow the use of third-party testing and determination of pump performance data if the owner or operator cannot compile all of the required information. TCC commented that §115.766(e)(1) and (f)(2) should be deleted or that the rules should clarify that pump performance information provided by the manufacturer or other pump performance information as available is sufficient documentation to use the pump curve methods for determining cooling water flow.

The commission agrees that a third-party pump performance test would be appropriate for existing pumps where no certified pump curve is available. The commission changed the rule language accordingly.

TCC commented that §115.764(e)(2) should be revised to allow the monitoring of the cooling water supply header pressure.

Monitoring of each pump's discharge pressure is necessary due to possible variability in the design and size of the pumps used in cooling tower heat exchanger systems with multiple pumps in service. Monitoring the overall header pressure may not accurately reflect the flow rate from individual pumps. Therefore, the suggested change has not been made.

ExxonMobil and TxOGA commented on §115.764(e)(2) that the calculation of flow based on pump performance data and status is not affected by the number of pumps in operation.

The commission disagrees with the commenter that the number of pumps in operation does not affect flow rate. No change has been made in response to this comment.

Dow suggested that the commission specify that the alternative provided in §115.764(g) to monitor only HRVOC-containing process units at a point leaving the HRVOC-containing process units in lieu of using a monitoring location at the inlet of the cooling tower, per §115.764(a)(1) and (b)(1), should also apply to systems having multiple cooling towers. Dow commented that it would like the commission to clarify either in the rule or the preamble to the rule that the phrase in §115.764(g), "at a point that represents the flow of cooling water from only the HRVOC-containing process unit and prior to mixing with cooling tower water from other units" means that these points could be on a header leaving the HRVOC-containing unit, or could be on a header downstream of individual heat exchangers.

The commission adopts §115.764(g) to specify that alternative monitoring locations may be used for cooling tower heat exchanger systems in which a single cooling tower services both HRVOC and non-HRVOC process units. The amendment allows the owner or operator to monitor from locations that represent the flow and concentrations from HRVOC processes. The rule has also been revised to apply the alternative provisions in §115.764(g) to single cooling towers that service multiple heat exchange systems. The commission declines to make the suggested change regarding multiple cooling towers because the cooling tower is the emission point at which HRVOCs are released into the atmosphere. However, the commission may consider modifications to monitoring or monitoring locations under alternative procedures in §115.764(f).

ExxonMobil and TxOGA commented that they would like the commission to add §115.764(i) to allow the sample line to the stripper to be longer than the 50-foot limit in Appendix P of the commission's sampling procedures manual as long as the sample flow is sufficient to meet the delivery time concern of Appendix P. TCC commented that the commission should clarify for purposes of these rules, that the 50-foot length requirement in the Appendix P, Special Procedure for Cooling Tower Monitoring, is waived provided the two-minute transfer time is met.

The suggested change is not necessary. The 50-foot limitation specified in Appendix P is only applicable during manual sampling performed according to that procedure when required by the rule. The sampling systems for the continuous monitoring systems specified in the rule should be designed to minimize the sample transfer time to two minutes or less, consistent with the rationale of the 50-foot limit in Appendix P.

Section 115.766 issues

ExxonMobil and TxOGA commented that they would prefer that the term, "hourly" not be used in §115.766(a)(3) and (4) as it may lead to the misunderstanding that records are required to be kept each hour in real time.

The commission disagrees with the comment. The short-term limit in §115.766(a)(3) and (4) is based on a one-hour time period, therefore, the records showing compliance with this limit must be based on the same time period. The commission has not made the suggested change.

ExxonMobil and TxOGA expressed their belief that in §115.766(a)(4) the concentration of total strippable VOC be used in emission calculations when the analytical value is below detection limits should be no more than one-half of the detection limit. TCC commented that the commission should be consistent and use the same one-half of the detection limit as the basis for calculating emissions as in §115.766(a)(3).

If an owner or operator is allowed to use one-half the detection for total strippable VOC without specifying a required minimum detection limit for the system, this would possibly allow circumvention of the 50 ppbw action level by selecting a monitor with a detection limit up to 99 ppbw. The commission had proposed to remove the requirement for the continuous strippable VOC monitor to achieve a ten ppbw detection limit to provide flexibility. However, in order to provide the option of using one-half the detection limit for total strippable VOC data, a minimum detection limit capability must be specified in the rule to ensure that the action level is enforceable. Therefore, §115.766(a)(3) has been revised as suggested, and §115.764(a)(2) has been revised to specify that the continuous strippable VOC monitoring must be capable of achieving a minimum detection limit of 25 ppbw or less. The required minimum detection limit is sufficiently below the action level to ensure enforcement of the action level and the certainty of data when an exceedance of the action level is indicated, but is still high enough to provide flexibility to owners or operators in the selection of the monitoring system.

ExxonMobil and TxOGA expressed a belief that the requirements to maintain all records related to corrective actions during monitor downtimes in §115.766(a)(6) is an unnecessary potential compliance

issue and should not be mandated in this rule. ExxonMobil and TxOGA further stated that the requirement to maintain a high on-stream performance is sufficient to assure monitoring reliability. Dow suggested that the commission clarify or eliminate the weekly recordkeeping requirements in §115.766(a)(6). TCC stated that this rule should be deleted, because there is no need for a requirement related to "corrective action" if operators are already subject to an emission cap.

The commission agrees with Dow's comment. The recordkeeping for corrective action in §115.766(a)(6) is intended to be applicable only to corrective actions made to the continuous monitoring systems during monitor downtime, not the corrective actions an owner or operator may take to assure compliance with an annual cap. Maintaining these records are necessary for field investigators to verify that on-line monitors are meeting the minimum 95% data availability specified in the rule and that owners or operators are making good faith efforts to properly maintain and operate monitors. The rule has been revised to reflect the intent of this requirement.

TCC commented that the use of the term "continuous" should be stricken from §115.766(b)(1) and (2), because it implies use of a "continuous recorder" to document exemptions. ExxonMobil and TxOGA commented that the requirement in §115.766(b) to keep records documenting continuous compliance with an exemption is overly burdensome and implies that some sort of continuous monitoring is required.

The commission contends that this requirement is not overly burdensome. As stated in the November 7, 2003, issue of the *Texas Register* (28 TexReg 9847), the commission's intent is to ensure that the requirements of §115.766(b) are met at all times, but not to state or imply that the requirement in §115.766(b) has anything to do with continuous monitoring.

Sierra Club requested the phrase "available for review upon request" in §§115.726(i), 115.766(c), 115.782(c)(1)(B)(i), 115.786(f), and 115.789(4) be defined. Sierra Club questioned how soon a regulated entity would have to make the records available to an investigator when they are requested.

The commission's intent is that the owner or operator provide the requested records within one business day.

Sierra Club requested that the "root cause" of the continuous monitoring system's downtime be required under §115.726(d)(3) and §115.766(a)(6).

Sections 115.726(d)(3) and 115.766(a)(6) currently require companies to maintain records that detail all corrective actions to the continuous emissions monitoring systems during any monitor downtimes and any delay in corrective action by documenting the dates, reasons, and durations of such occurrences. The commission considers maintaining records of the reasons for any monitor downtime to be sufficient to provide documentation for the cause of the monitor downtime.

Sierra Club commented that §115.726(a)(1)(B) should require submittal of a QAP 60 days prior to use of the HRVOC process so that the commission would have the opportunity to review the QAP before use of the process begins. Sierra Club also objected to automatic approval of the QAP, as provided under §115.726(a)(1)(C) and §115.766(i)(3), if the commission has not approved or provided a deficiency letter within 180 days. Sierra Club stated that automatic approval would exert on the commission to approve QAPs that are not reviewed or given insufficient review due to the lack of personnel or the lack of adequate training. Sierra Club suggested a longer time period of 270 days.

The commission revised the rule regarding the submission and approval of QAPs. The revised rule requires written QAPs to be developed, implemented, and followed, but the QAPs are only required to be submitted upon request by the executive director. Any modifications or alternatives to the monitoring requirements or methods specified in the rule must still be approved by the executive director. Any such requests must be specifically approved in written response from the commission, and default approval will not occur. Owners or operators of affected facilities must comply with all requirements of the rules until any such site-specific request has been approved. This approach will allow the commission to adequately review and respond to modifications and alternative requests. This is consistent with the other commission procedures to address such requests regarding other commission rule and permit monitoring requirements.

ExxonMobil and TxOGA commented that the only pump performance records that should be required in §115.766(e) and (f) should be those records necessary to establish the pump performance characteristics and calculate flow based on discharge pressure. TCC commented that §115.766(e)(1)

and (f)(2) should be deleted or that the rules should clarify that pump performance information provided by the manufacturer or other pump performance information as available is sufficient documentation to use the pump curve methods for determining cooling water flow.

The commission contends that the specified records are necessary to determine flow rate based on pump discharge pressure. However, the commission agrees that a third-party pump performance test would be appropriate for existing pumps where no certified pump curve is available. The commission has changed the rule language accordingly.

TCC and Dow commented that daily records should not be specified for a calendar year compliance requirement in §115.726(g) and §115.766(g). ExxonMobil, MCC, and TxOGA expressed a belief that the requirement in §115.726(g) to maintain annual emission information is unnecessary and that the cap and trade rule has sufficient requirements for annual emission reporting. Dow expressed a belief that the daily requirement in §115.766(g) will be difficult to meet because it will often take several days to insert emissions into the hourly calculations. Dow suggested that monthly records of the HRVOC emissions should be adequate to document compliance with an annual HRVOC emission limit.

The requirement to maintain daily records for demonstrating compliance with the annual cap is necessary to allow field investigators to ascertain the compliance status of a facility during a site inspection, which may occur at any time during the calendar year. The enforcement of the rules would be eroded if facilities were only required to calculate their annual emissions relative to the long-term cap at the end of the compliance period. Additionally, not all sites will be included in

the cap and trade program. The commission expects historical information updates to be made daily, as information is available. Monthly records would be inadequate because of the short-term cap requirements. No changes were made in response to this comment.

Dow suggested that the commission revise the requirements in §115.766(h) to clarify that hourly records of the HRVOC emission are to be made available within the next 30 days.

The suggested time of 30 days to submit hourly records of HRVOC emissions is not appropriate or adequate because owners or operators are required to maintain these records on site and update the records continuously with the most recent monitoring and testing data. Records demonstrating compliance must be made available upon request as is specified in §115.766(c).

Section 115.767 issues

TCC and Dow commented that the commission should clarify that a cooling tower heat exchanger system is exempt from the requirements of the division if each heat exchanger associated with the system meets either exemption §115.767(1) or §115.767(2) and should clarify that the exemption provided in §115.767(1) is valid as long as the pressure difference is maintained during times of normal operations. The commission should also clarify that the exemption provides for cases where the cooling water is operated at a higher pressure as long as the five pounds per square inch, gauge difference is maintained during normal operations, excluding upsets and periods of maintenance, startup, and shutdown.

As stated in the November 7, 2003, issue of the *Texas Register* (28 TexReg 9847), the commission's intent is to ensure that the exemption criteria of §115.767(1) are met at all times.

ExxonMobil and TxOGA expressed a belief that the qualification for the differential pressure exemption criteria in §115.767(1) should not require installation of continuous pressure monitors at each exchanger, and that design criteria and process information should be sufficient. TCC commented that the commission should delete the requirement for "continuous" pressure monitoring to document compliance with the exemption.

Continuous monitoring of pressure is needed to demonstrate compliance with the exemption. Therefore, the commission declines to make the suggested change.

Dow expressed a belief that the commission should provide an exemption in §115.767(3) for cooling tower heat exchange systems that have an intervening fluid between the return cooling water and the process fluid containing HRVOC greater than 100 ppmw.

The commission agrees with the commenter and added an exemption in §115.767(5) to specify that any cooling tower heat exchange system with an intervening cooling fluid containing less than 100 ppmw of HRVOC between the process and the cooling water is exempt from the requirements of this division, except for applicable recordkeeping requirements.

Dow commented that it is seeking clarification related to the exemptions provided in the rule regarding systems that have some exchangers that meet the pressure exemption and some exchangers that meet the less than 100 ppm exemption. ExxonMobil and TxOGA suggested combining the exemptions in §115.767(1) and (2).

The exemptions in §115.767(1) and (2) are intended for different purposes and therefore cannot be combined. The intent of §115.767(1) is that only those heat exchangers with HRVOC concentrations greater than 100 ppmw must meet the pressure exemption level. The intent of §115.767(2) is to exempt cooling tower heat exchange systems where each heat exchanger meets the 100 ppm exemption, regardless of the operating pressures.

Dow suggested a change to §115.767(4) to clarify that a cooling tower heat exchange system that will be permanently out of service by April 1, 2006, is exempt from the requirements of the division, with the exception of the notification and recordkeeping requirements of §115.766(j), because §115.766(j) includes a notification as well as recordkeeping requirements.

The commission agrees with the commenter and made the suggested change.

ATOFINA commented that the commission should allow flexibility regarding the use of detection limits for certain HRVOCs that a facility has no potential to emit. Celanese stated that the commission should exempt all cooling tower heat exchange systems from the cap that contain less than 5% by weight HRVOC, regardless of other cooling tower systems at the site. Celanese stated that the calculation of

cooling tower emissions uses the cooling water flow rate and analytical results. If no HRVOC is found, the detection limit (current rule) or one-half the detection limit (proposed rule) is used in the calculations. Due to the high cooling water flow rate, even a low detection limit results in overstated emissions. Under the proposed rule, for example, a 100,000 gpm cooling tower using an analysis with a ten ppbw detection limit would require over one ton per year of allowance without any actual emissions using the proposed rule. For a small - medium site, this will represent a larger portion of the cap, although there may not be any actual emissions from the cooling tower.

To provide greater flexibility, the commission revised the rules with regard to detection limit capability for HRVOC measurement. If an owner or operator wishes to minimize the impact of detection limits on calculated HRVOC emission rates, the more sensitive on-line analyzers or laboratory analyses should be selected. The flexibility suggested by ATOFINA for individual HRVOCs may be addressed in a site-specific request for modification. No change has been made to the rule in response to this comment.

Section 115.769 issues

TCC commented that the compliance date for cooling towers in §115.769 should be consistent with any compliance date extensions for flares/vents.

With the exception of the cap compliance date, the commission previously extended all deadlines in Divisions 1 and 2 by one additional year. Furthermore, the revision to the QAP and test plan provisions of the rules no longer constrains owners or operators to potentially waiting for approval

of a QAP or test plan. The commission has not changed the compliance deadlines with regard to the testing and monitoring requirements; however, the commission agrees that additional time is needed to make the necessary emissions reductions to demonstrate compliance with the emissions specifications. All sites in Harris County must comply with HRVOC emissions cap and trade program by January 1, 2007. Harris County sites subject to the short-term limit in §115.761(c)(1) and Harris County sites subject to the annual emissions specification in §115.761(b) must continue to comply with the April 1, 2006, compliance date. However, the commission adopts §115.727(f) and §115.767(6) to specify that all sites subject to Divisions 1 and 2 that are located in the HGB ozone nonattainment area, excluding Harris County, are exempt from §115.722(b) and (c)(2) and §115.761(b) and (c)(2). The commission adopts §115.729(a)(3) and §115.769(a)(3) that specify the exemptions in §115.727(f) and §115.767(6) will no longer apply upon public notice of revocation by the commission. Upon revocation of these exemptions, sites subject to these divisions located in the HGB ozone nonattainment area, excluding Harris County, must comply with the compliance schedule or within 180 days of public notice, whichever is later.

TCC commented that the commission should replace the words "being brought into HRVOC service" with the words "after approval of the plan so that §115.769(b) reads ". . . testing and monitoring must be conducted as soon as practicable, but no later than 60 days after approval of the plan."

The commission revised the rule regarding the submission and approval of QAPs. The revised rule requires written QAPs to be developed, implemented, and followed, but the QAPs are only

required to be submitted upon request by the executive director. The suggested change would be inconsistent with the revised rule. Therefore, no change has been made to the rule.

Section 115.780 issues

ATOFINA-American stated that the commission proposal for a separate equipment leak monitoring program is not necessarily compatible with other leak detection and repair (LDAR) programs that facilities are required to comply with, such as the "Texas 28 VHP" equipment leak program and the federal NSPS and the MACT equipment leak programs. ATOFINA-American stated that the commission should ensure that any time a facility must comply with the HRVOC program, that this requirement satisfies all state-origin LDAR requirements for any portion of the facility that must comply with LDAR regulations. ATOFINA-American also stated that the commission should ensure that any LDAR provisions in the HRVOC program do not conflict with the various NSPS and MACT programs. ATOFINA-American suggested that the commission provide an analysis in the final rule preamble describing how these programs work together to meet the commission's goals and make any necessary adjustments to ensure maximum consistency among the programs. ATOFINA-American also suggested that the commission should provide an explanation that each component is subject to only one state-origin LDAR program to ensure consistency.

The commission made no changes to the rule in response to this comment. The various fugitive monitoring programs have been developed to serve different purposes, and this rule does not override any other state or federal requirements for leak monitoring. Sources must be in compliance with all applicable rules.

TCC commented that §115.780(b) should be deleted in order to have the option to use discrete emission reduction credits to address cumulative emissions in DOR programs in lieu of a process shutdown.

This requirement was added to the HRVOC fugitive rule to be consistent with the vent and flare rules in Division 1, and the cooling tower rules in Division 2. Discrete emission reduction credits are not compound specific; therefore, they cannot be used to offset HRVOC emissions. However, under specific cases, general VOC credits may be allowed to offset HRVOC emissions. These specific cases are addressed in the RESPONSE TO COMMENTS section of the Chapter 101 HRVOC cap and trade preamble published in this issue of the *Texas Register*.

Section 115.781 issues

Sierra Club questioned how a visual inspection under §115.781(b)(5) could determine that water seal controls are properly designed and restrict ventilation, and stated that a visual check would not necessarily verify that a water seal is working unless an analyzer is used.

The visual inspection is to determine whether or not water is present in the seal, thus controlling emissions to the atmosphere.

ExxonMobil requested that §115.781(b)(1) and (2) be deleted, and stated that the exemptions in Subchapter D, Division 3 are necessary to make the program reasonable and workable.

Section 115.787 contains exemptions that apply to components in HRVOC service. These exemptions are similar, but not identical to, the exemptions provided in Subchapter D, Division 3 because of differences in the purposes and the specific requirements of the two divisions.

ExxonMobil stated that the inconsistent use of the terms "VOC" and "HRVOC" contributes to the confusion of whether specific components have special requirements based on being in VOC or HRVOC service and suggested that "HRVOC" be added in several parts of §115.781(b). Dow suggested that "HRVOC" be added to §115.781(b)(8) to clarify that the provision is applicable only to PRVs in gaseous HRVOC service.

The commission made no changes to the rule in response to this comment. Section 115.787 specifies that components that are not in HRVOC service are exempt from the requirements of Subchapter H, except for the recordkeeping requirement to document the exemption.

ExxonMobil requested that follow-up after repairs made during a unit shutdown required by §115.781(b)(4) should be either monitoring or inspection and should be allowed the full following calendar month to complete.

Repaired components should be monitored as soon as possible after returning to service to confirm that the repair was successful. The 30 days allowed in the rule should be sufficient to monitor all repaired components.

ExxonMobil commented that the requirements in Subchapter H, Division 3 for monitoring fugitive components should clearly apply only to components in HRVOC service and that no changes should be made to the monitoring program for components in VOC service that do not contain HRVOC.

The requirements in Subchapter H, Division 3 do not change monitoring requirements for components in VOC service that do not contain HRVOC.

ExxonMobil commented that the designation "unsafe-to-monitor" in §115.781(b)(7)(A) should not be restricted to components that are dangerous to monitor on a quarterly basis.

The commission revised §115.781(b)(7)(A) to clarify that the exclusion for unsafe-to-monitor components is not restricted to components that are monitored on a quarterly basis.

ExxonMobil and TCC commented that the list of unsafe-to-monitor components should not be required to be made available immediately under §115.781(b)(7)(A), and expressed a belief that this is requirement is overly demanding.

The commission contends that the list of components should be available to a commission investigator or any local pollution control agency with jurisdiction within the same business day it is requested.

ATOFINA-American supported the proposed modification to the definition of "difficult to monitor" and expressed appreciation that the commission understood the Occupational Safety and Health Administration-related burdens with requiring periodic confined space entries for LDAR monitoring.

The commission appreciates the comment.

ExxonMobil commented that difficult-to-monitor components in §115.781(b)(7)(B) should apply to any components regulated by confined space entry and suggested that the words "is below floors or deck gratings" be deleted.

The commission agrees that any component that would require a confined space permit for access should be considered as a difficult-to-monitor component and revised the provision accordingly.

ExxonMobil commented that the unsafe-to-monitor and difficult-to-monitor definitions should not be a subset of the additional requirement of the general VOC program, but should be the same in both the VOC and HRVOC program.

The commission made changes to the definitions of "Unsafe-to-monitor" and "Difficult-to-monitor" in the general fugitive rules in Chapter 115, Subchapter D, Division 3 to make use of the terms consistent with the HRVOC rules.

Dow suggested that the word "immediately" in §115.781(b)(7)(A) be clarified consistent with the intent stated in the preamble to the proposed rule. Sierra Club requested that the definition of "immediately" provided for §115.781(b)(7)(A) be added to the general rules and applied to all recordkeeping requirements for HRVOC, other VOC rules, and other commission rules. Sierra Club stated that the change is needed so that investigators would not have to waste time waiting for the regulated entity to produce required records.

The commission does not intend to define "immediately"; however, as stated in the preamble, the word "immediately" is used to specify that if requested by staff of the Houston regional office, or any air pollution control agency having jurisdiction, the owner or operator must provide the site's unsafe-to-monitor list within that business day. Adding the definition "immediately" to the general air rules in Chapter 101 was not proposed as part of this rule package, and therefore, is outside the scope of this rulemaking.

ATOFINA-American stated that the ATOFINA Crosby plant manufactures organic peroxides, uses one of the listed HRVOC compounds in the production process of some of the facility's products, and has a quarterly LDAR monitoring program (Texas 28 VHP) as part of the operating permit. ATOFINA-American stated that LDAR monitoring is conducted on organic peroxide production units that are placed on hold for process safety and worker safety reasons.

The commission recognizes ATOFINA-American's safety concerns; however, based on the comments made by ATOFINA-American, it is unclear whether the components in the described

process meet the commission's definition for "unsafe-to-monitor." In accordance with §115.781(b)(7)(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 the monitoring. The commission is unsure of ATOFINA-American's meaning by the statement that it monitors quarterly for organic peroxide production units that are placed "on hold."

TCC commented that the commission should confirm the monitoring requirements for PRVs and that safety valves that relieve to the atmosphere directly or are routed to a flare only require monitoring of the body of the PRV.

As noted earlier in this preamble, the body of all PRVs in gaseous service must be monitored with a hydrocarbon gas analyzer for fugitive leaks on a quarterly basis unless the PRV is equipped with a rupture disc upstream of the PRV. Within 24 hours following actuation, or longer if the vent is considered to be unsafe to monitor or difficult to monitor, the vent from the PRV must be monitored to ensure that the relief mechanism has properly reseated. However, if the emissions from the PRV are released to a control device, the vent monitoring is not required. This requirement does not supersede any monitoring requirements found in §115.725.

Dow recommend that §115.781(b)(8) provide additional flexibility for the monitoring location for safety valves to be consistent with EPA Method 21, Section 8.3.1.4 found in 40 CFR Part 60, Appendix A.

The procedure specified in Section 8.3.1.4 of EPA Method 21 would be an appropriate procedure to perform the monitoring required in §115.781(e) after a pressure relief device is vented directly to the atmosphere. The monitoring required in §115.781(b)(8) for the various components of a PRV should be performed according to the appropriate sections of EPA Method 21.

Dow recommended deleting the requirement in §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.

The commission declines to make the requested change. The use of the highest pegged value if actual, monitored values are not available because the reading is higher than the upper end of the scale is required to encourage the recording of actual monitored values. The commenter has the option of using the actual recorded values or to use a dilution probe when necessary to obtain actual readings up to 100,000 ppmv. The commission also notes that if the commenter is obtaining a reading, the monitor is not "pegged."

Dow suggested correcting §115.781(e) by removing the requirement to report results of monitoring after pressure release events.

Section 115.781(e) states that the results of monitoring after pressure relief events are to be reported in accordance with §115.786, but this section does not require reporting. It does require that records be maintained of all monitoring and inspections conducted in accordance with

§115.781. The commission thus changed the reference in §115.781(e) from "reported" to "recorded."

ExxonMobil commented that the list of components specified for monitoring in §115.781(b)(3) is not the same as the list in §115.781(f) that specifies alternatives and stated that some components are missing from the alternatives list.

Sampling connections, agitators, junction box vents, covers and seals on VOC water separators, and process drains are intentionally excluded from the list in §115.781(f). The commission included the following discussion in the response to comments when the Subchapter H, Division 3 requirements were published in the January 3, 2003, issue of the *Texas Register*: "Because bolted manways, heat exchanger heads, hatches, and sump covers have no moving parts, they are analogous to connectors (and in some cases even could be considered a subset of connectors). Therefore, the commission maintains that it is appropriate for these components be included in a leak-skip option for connectors." Sampling connections, agitators, junction box vents, covers and seals on VOC water separators, and process drains are not analogous to connectors, and therefore, were not included in the leak-skip option.

Dow requested that the leak skip provisions in §115.781(f) be clarified to indicate whether all component types should be averaged together or considered separately to determine the leaking percentage. Dow expressed a belief that they should be averaged together.

The commenter is correct. The percentage of leaking components should be determined on an average basis.

GHASP expressed concern that the HRVOC fugitive monitoring rules in §115.781(f) allow the company to determine the component leak rate percentage that in turn establishes greater or lesser leak monitoring intervals. Sierra Club expressed a similar concern, and stated that the percentage of leaking components found by regulated entities is often much lower than the percentage found by the commission or local programs. Sierra Club suggested that quarterly monitoring be required regardless of the percentage of leaking components until the commission has adequately addressed this enforcement concern. As an option, Sierra Club suggested that skip periods be allowed only after the commission or local program has conducted a fugitive monitoring investigation and found a similar percentage of leaking components as the regulated entity for the past 12 months. GHASP requested that the rules state specifically that the commission retains the discretion to determine that a different monitoring interval applies based on its interpretation of enforcement investigations and all credible evidence regarding the leak detection rate at a particular facility.

The component monitoring requirements of this rule are consistent with EPA regulations and are based on actual measurements. The commission can take appropriate enforcement actions against a regulated entity if it determines that the percentage of leaking components has been determined incorrectly.

Sierra Club opposed the provision in §115.781(g) of "best efforts to transfer, on a daily basis, electronic data" because there are no standards to determine what the phrase means. Sierra Club asserted that this is a "should" phrase that must be a "shall" phrase.

The commission revised §115.781(g) to state that data must be transferred within seven days. Paper logs are allowed in this rule under certain circumstances and the owner or operator is allowed to transfer paper logs to a database within seven days. The change would make the requirements to transfer information to the database the same whether the information is collected electronically or on paper.

Sierra Club requested that the "auditing process" referred to in §115.781(g)(1) be defined. ExxonMobil requested that the data required by §115.781(g)(1) and (2) not include a determination of acceptable rates for monitoring for each run performed. ExxonMobil commented that this determination would be impractical to make for all runs routinely due to the high number of variables that affect it, and stated that the determination should only be part of an audit program and should be made only when the time of the monitoring seems questionable.

The reference to an "auditing process" in §115.781(g)(1) is redundant with the auditing program required by §115.788. The commission deleted the reference from §115.781(g)(1).

Dow suggested that an additional sentence be added to §115.781(g)(1) to be consistent with Method 21.

As noted in response to the previous comment, the commission deleted the requirement to determine an acceptable rate of monitoring; therefore the change suggested by Dow is unnecessary.

ExxonMobil commented that records of each audible/visual/olfactory inspection should not be required except for details of any leaking component found because more detailed recordkeeping is overly burdensome and wastes resources without reducing emissions. TCC and Dow requested that the commission clarify in §115.781(g)(2) that transfer of "manually recorded monitoring data" refers only to transfer of information related to actual LDAR component monitoring rather than to audible/visual/olfactory inspections.

The commission deleted the reference to records of audible/visual/olfactory inspections from §115.781(g)(2). The reference was included in the proposed rule by mistake.

Dow suggested rewording §115.781(g) and (g)(2), because an electronic database is not required by §115.356.

The commission agrees that an electronic database is not required by §115.356 and revised §115.781(g) and (g)(2) accordingly.

Dow requested that the requirement in §115.781(g)(3) to maintain changes to the database by notation in the database or in a log be changed. Dow noted that additional flexibility is needed because some

monitoring contractors keep track of changes using a manual system such as tag maintenance cards rather than in a log. A single log would be impractical if there are many contractor personnel on site using maintenance cards.

The commission declines to make the suggested change. The owner or operator is responsible for maintaining the security of the database and ensuring that all modifications to the database are properly tracked.

Section 115.782 issues

Dow recommended that clarification be added to §115.782(b)(1) to state that one business day refers to the normal Monday through Friday business days, excluding company holidays.

The commission declines to add clarification to the rule language, and notes that business days are typically Monday through Friday, excluding national holidays.

TCC recommended that the commission provide an exemption for certain facilities such as caverns that are primarily storage or transfer operations with no shutdown/startup emissions from cumulative emission calculations triggered by this rule. Dow proposed that the cumulative mass emission comparison calculation for DOR should not be required for certain distribution and storage areas (e.g., caverns, outside-battery-limit-pipelines, marine terminals) that are not part of a manufacturing process but are subject to Chapter 115 fugitive rules because they are connected via pipeline to a manufacturing process subject to Chapter 115 fugitive rules.

The commission revised the DOR calculation to be on a daily basis instead of cumulative. The emission comparison for emissions from the types of facilities described by the commenters would be emissions from the nonrepairable leaking components at the distribution or storage area compared to emissions from shutdown, clearing, and restart of the distribution or storage area that must be shutdown in order for the repairs to be safely completed.

Sierra Club commented that the rules in §115.782(c)(1)(B)(i)(II) and (iii) and (2)(A)(i) are too long and complicated and should be broken into several parts to make them easier to understand.

The commission appreciates the comment and acknowledges that the cited rules are complex, but does not agree that breaking them into additional parts would make them easier to understand. The commission made changes to the rules and added discussion to this preamble to try to make the rules easier to understand.

TCC commented that the commission should clarify §115.782(c)(1)(B)(i)(III) concerning "Procedures and Schedule for Leak Repair and Follow-up." Specifically, TCC suggested that the commission clarify that the recordkeeping compliance date, March 31, 2004, is the starting point for identifying leakers for the purpose of cumulative mass emission calculations.

The commission changed the emission calculation procedure to be on a daily basis rather than cumulative. Therefore, the requested change is not necessary.

TCC commented that the commission should clarify that in §115.782(c)(1)(B)(i)(IV) for purposes of DOR, the leaking components in HRVOC service are compared with HRVOC emissions resulting from shutdown, clearing, and subsequent startup of the unit.

The commission declines to make the suggested change. The measurement of VOCs using Method 21 will not differentiate between HRVOCs and other VOCs; therefore, there is no practical way to accurately determine HRVOC emissions from the fugitive components.

ExxonMobil commented that the time limit for extraordinary efforts to count for leaks over 10,000 ppmv should be 15 days for consistency. TCC commented that the commission should review the repair timing throughout §115.782 for consistency. TCC expressed a belief that some language originally drafted in the general fugitive rules was directly copied into the HRVOC rule for purposes of this proposal, and that this created unnecessary confusion regarding the intended changes. TCC suggested a first extraordinary attempt for valves leaking greater than 10,000 ppmv be required within 22 days instead of 14 days. Dow recommended that the time limits for extraordinary repair of HRVOC valves specified in §115.782(c)(2)(A)(i) be made consistent with the time limits for other types of components specified in §115.782(c)(1)(B)(iii) to eliminate confusion and ease programming ability. Dow also noted that the term “components” should be used instead of “valves.”

TCC is correct that certain language from the general fugitive rules was directly copied into the HRVOC rules, leading to some confusion because of the different purposes and requirements of the general fugitive and HRVOC fugitive programs. The language in the general fugitive rules

specified criteria by which emissions from nonrepairable valves and other components could be excluded from the calculation of cumulative mass emissions from leaking components if extraordinary efforts to repair the leaking were attempted. The use of extraordinary efforts would be optional. In the HRVOC fugitive rules, extraordinary efforts to repair leaking valves are required and not optional. The commission replaced the term "valve" with "components" to clarify that §115.782(c)(1)(B)(iii) applies to components other than valves. The commission does not agree that the time for a first extraordinary attempt for valves leaking greater than 10,000 ppmv should be extended to 22 days. The purpose of requiring extraordinary efforts to repair valves leaking at a rate greater than 10,000 ppmv within 14 days is to ensure expeditious repair of significant leaks. Because the purpose of the specification of time periods for application of extraordinary efforts of repair in the two cited clauses are different, the specification of different time periods does not create an inconsistency. Furthermore, the specification of time periods in §115.782(c)(1)(B)(iii) does not preclude the use of extraordinary efforts at a later date (for example, on components that were on the DOR list before March 31, 2004.) If a component on the DOR list is successfully repaired by extraordinary efforts, it would no longer be on the DOR list and its emissions would no longer be included in the total daily mass emission rate from leaking components.

Dow requested that the word "scheduled" be added before the word "shutdown" in §115.782(c)(1)(B)(iv).

The commission agrees that adding the word "scheduled" clarifies the meaning of the referenced clause and has made the suggested change.

Dow recommended that the DOR language in §115.782(c)(1)(C) be revised to allow replacing any seal system with one that is expected to provide better performance.

The commission is not including Dow's suggested wording to allow DOR for replacement with a seal design that "the owner or operator expects will provide better performance." The owner or operator is not required to demonstrate how it determined that replacement of a single seal with one of the listed options is "required" in order to repair a leaking pump. The provision, as worded, does not prevent replacing existing dual mechanical seal systems or sealless pumps with more efficient systems. The language suggested by Dow is too subjective and would be practicably unenforceable.

Dow recommended that a second extraordinary attempt not be required in §115.782(c)(2)(A)(i) and §115.782(c)(1)(B)(iii) for components that were initially leaking in excess of 10,000 ppmv if the first extraordinary effort attempt lowers the leak concentration to below 10,000 ppmv.

The commission declines to make the suggested changes to the rule. The provision for the second extraordinary effort is to ensure that the component is repaired. If the first attempt is unsuccessful, but brings the leak below 10,000 ppmv, the component is still not fully repaired. If the component were initially identified as leaking at a rate below 10,000 ppmv, the owner or

operator would be required to make an extraordinary effort at repair. Therefore, requiring a second extraordinary effort if the initial effort brings the leak rate below 10,000 ppmv is consistent with the intent of the requirements. If the second extraordinary effort is unsuccessful, then the component should be added to the DOR list but the associated emissions do not have to be counted toward the total cumulative mass emissions from leaking components.

ATOFINA-American stated that facilities should not be required to commence cumulative mass emissions calculations from each component that is placed on the shutdown repair list as proposed in §115.782(c)(1)(B)(i). ATOFINA-American stated that facilities should commence the calculations after any possible extraordinary efforts are completed, because it may not be possible to commence extraordinary efforts until several days after the leak is first noted.

The commission agrees with ATOFINA-American's comment that the calculations need not commence until the company has determined whether extraordinary efforts will be attempted and has changed the rule accordingly. The commission also notes that the calculation has been changed from a cumulative basis to a daily basis. If extraordinary efforts are attempted within the timing specified in the rule, the emissions from the component need not be included in the mass emission calculation even if the repair is unsuccessful.

TCC suggested that the commission reconsider the requirements to compare cumulative HRVOC emissions from components on DOR versus the emissions associated with shutdown, clearing, and startup of a given process unit. TCC suggested that the rule instead require a comparison of daily

HRVOC emissions from components on the DOR list to the maximum daily emissions associated with a scheduled shutdown, clearing, and startup of a unit. ExxonMobil commented that the DOR requirements should not require a shutdown for repair that will create peak emissions that will be contrary to the SIP objectives. ExxonMobil stated that short-term emissions from the DOR components should be compared to the short-term emissions that would result from a shutdown for repair because avoiding long-term emissions from DOR components with a shutdown for repair that will create short-term emissions over a few hours or days would make exceedance of the air quality standards more likely. ExxonMobil further stated that if a meaningful limit of accumulation of DOR emission rates is needed, the commission should set a limit to avoid allowing an ongoing emission rate that is significant to the allowable emissions based on modeling. ExxonMobil further commented that if accumulated DOR emissions are to be compared to shutdown related emissions, the decision should only involve future emissions.

The commission agrees that requiring a shutdown that would generate short-term emissions in order to eliminate emissions that have accumulated over a long-term period may not be the best strategy to minimize ozone formation. For this reason, the commission modified the rule to require a comparison of daily VOC emissions from components on the DOR list to the maximum daily emissions associated with a scheduled shutdown, clearing, and startup of a unit.

ExxonMobil noted that mandated shutdowns for repair of DOR components should not require shutdowns too frequently to avoid discouraging industry from working to reduce or eliminate shutdown emissions. TCC and Dow recommended that the commission provide a *de minimis* shutdown, clearing,

and startup emission level below which it is acceptable to delay repair until the total cumulative mass emissions for leaking components in HRVOC service exceed the *de minimis* emission level or the actual shutdown, clearing, and startup emissions, whichever level is greater. Dow suggested a level of 1,000 pounds.

The DOR provision may have the unintended consequence of penalizing facilities that have minimized shutdown/clearing/startup emissions. For this reason the commission added a *de minimis* limit of 500 pounds. A shutdown for repair of leaking components would not be required if the total daily emissions from leaking components are less than 500 pounds even if the shutdown/clearing/startup emissions are less than this *de minimis* level.

Section 115.786 issues

ExxonMobil and Dow commented that the report period for each corresponding report date for nonrepairable components in §115.786(c) should be specified as "January 31 for the previous July 1 through December 31, and July 1 for the previous January 1 through June 30."

The commission agrees that including the reporting period adds clarity to the rule and has made the suggested change.

ExxonMobil commented that §115.786(c)(4) should clarify that the required record is the date of the last scheduled process unit shutdown instead of the date of the last process unit turnaround.

The commission agrees that the suggested wording more clearly explains the intent of the provision and has changed the rule accordingly.

TCC commented that the commission should provide sufficient time to make updates to the DOR records that are required per §115.786(d)(2). TCC expressed a belief that updating records each business day does not provide sufficient time when a component is added at the end of a business week. TCC requested that five business days be allowed to make the updates. ATOFINA-American stated that the same-day calculation required in §115.786(d)(2) is infeasible, especially if the leak is observed on a weekend and the personnel responsible for such calculations are unavailable for several days due to weekends or holidays. ATOFINA-American stated that such calculations should be performed within two business days after the completion of any extraordinary efforts to prevent the leak from being placed on the shutdown list, or the decision that extraordinary efforts are unfeasible. ATOFINA-American expressed a belief that this requirement would require an undue burden on the affected facility, keeping highly-skilled employees on call speculatively awaiting the rare event that a single component leak might become subject to the shutdown list.

The commission agrees that performing the calculations within one business day may not be feasible in all instances, and has changed the requirement to specify that records be updated within five business days after it is determined that a leaking component will require a process unit shutdown to repair.

Section 115.787 issues

ATOFINA-American stated that the commission previously encouraged facilities to install rupture disks on PRVs to minimize emissions to the atmosphere, and that this configuration is also expected in units that must comply with any of the several EPA LDAR standards, including the NSPS to which the American Acryl complex is subject. ATOFINA-American also stated that EPA has historically recognized that non-monitoring technologies are available to determine if a rupture disk has failed, such as visible flag-type monitors that can be observed by an operator on regular inspection rounds. EPA also has provisions to allow facilities to petition for an applicability determination that allows other monitoring systems to be used, including pressure indicators between the PRV and the rupture disk. ATOFINA-American also stated that many facilities installed rupture disks in very close proximity to PRVs so that interstitial pressure changes would be easy to monitor, and that actual monitoring of this space was not anticipated and is included in the affected piping systems. ATOFINA-American stated that additional sampling probe locations to facilitate leak measurements are not practical or feasible in these systems, because such installation would require the removal of each existing PRV/rupture disk combination and the replacement of the assembly with a design that would accommodate the additional sampling location. ATOFINA-American stated that the proposal in §115.787(e) to delete the monitoring exemption for PRVs with rupture disks does not take into account the inconsistency between the proposed standard and the existing NSPS that the proposal would contravene, nor the removal of all PRVs to facilitate monitoring at a facility, and that the commission should allow alternate monitoring systems for PRV monitoring or delete the proposed requirement. TCC opposed the commission's proposed deletion of the exemption in §115.787(e) from inspection/monitoring for PRVs equipped with a rupture disk. TCC expressed a belief that this exemption should be retained because it stated that adding a rupture disk under the relief valve further assures there is no flow or leaking through the relief

valve. Dow proposed that the commission retain the existing exemptions for PRVs that are equipped with an upstream rupture disk and PRVs that are routed to a closed vent system and control device.

The commission agrees that in cases where the rupture disk is on the upstream side, fugitive emissions from PRVs are effectively prevented. Therefore, PRVs so equipped should be exempt from the monitoring requirements in §115.781(b)(8). The commission revised the rule accordingly.

ATOFINA-American stated that it uses an HRVOC in two units on a batch campaign basis, and that the campaigns only constitute a portion of the operating year for each unit. ATOFINA-American also stated that the commission should recognize that HRVOC monitoring is only appropriate in continuous process units continuously using or producing HRVOC, and not in batch manufacturing units using HRVOCs intermittently.

Components that contact process fluids containing less than 5.0% HRVOC by weight on an annual average basis are exempt from the requirements of Division 3, except for the recordkeeping requirements in §115.786(d) and (e). Furthermore, the commission does not differentiate between batch processes or continuous processes, because the rule is based on emissions regardless of frequency.

Section 115.788 issues

EPA expressed concern that no documentation has been provided to justify the projected emission reductions due to improvements to the fugitive emission program. EPA agreed that emission reductions should be expected, and commented that the commission must commit to confirming that the projected emission levels have been achieved. EPA stated that sources should be required to use correlation equations to estimate emissions in future inventories. EPA stated that the commission should conduct a rule effectiveness study to determine how effective sources are in detecting and repairing leaks and suggested that data from the third-party audits could provide the basis for this study.

The commission is committed to conducting a rule effectiveness study after the third-party audit program has progressed and more data is available. The commission is also planning to require the use of correlation equations to calculate fugitive emissions for annual emission inventory reporting.

TCC suggested that the commission revise the audit provisions in §115.788. TCC expressed a belief that the audit should be a random sampling of applicable units at the site rather than every unit at the site.

The commission agrees with the commenter that random sampling from among all applicable units at the site will accomplish the purpose of the leak survey requirement and has revised the audit rules to reflect this change. It is the commission's intent that the fugitive audit program be used to identify any patterns that are indicative of failure to properly implement Test Method 21.

The random sample must be such that each valve has an equal chance of being selected from the total number of valves being sampled. The use of a random sampling of valves at the site that are in HRVOC service, are not exempted from quarterly monitoring by §115.787, and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists, will allow the independent third-party organization to identify any potential patterns showing failure to properly implement Test Method 21, without being overly burdensome on the company. To implement this audit program properly, the pool of valves to be selected from must contain valves that are monitored on a quarterly basis, so an accurate leaker rate can be determined.

Dow recommended that accounts with greater than five process units in HRVOC service should only be required to audit a maximum of four process units per year and that accounts with less than or equal to five process units in HRVOC service should only be required to audit each process unit every five years.

The commission revised the audit rules to apply to the site rather than individual process units.

TCC suggested that the commission should allow owners and operators a certain number of days after the end of the monitoring period to complete the audit. Dow recommended that the field survey required under the third-party audit provisions in §115.788(a)(2)(A) begin within 45 days after the monitoring service has completed its work to allow for situations where the usual monitoring service may not be completed until the end of the monitoring period.

The commission revised the rule language such that the field survey must be completed by the end of the next monitoring period.

TCC suggested that §115.788(a)(2)(C) be deleted if the commission adopts the TCC suggested random sampling strategy.

The commission adopts the random sampling strategy suggested, and therefore, deleted §115.788(a)(2)(C).

TCC and Dow suggested that §115.788(a)(3)(C) be deleted, because it is duplicative with §115.788(a)(3)(A).

The commission agrees that the provisions are duplicative and has merged §115.788(a)(3)(C) with §115.788(a)(3)(A).

TCC commented that it cannot identify the benefit of contacting the Houston regional office prior to the third-party audit and therefore suggested that the requirement in §115.788(c) to provide verbal notification to the Houston regional office prior to the audit be deleted.

Notification to the Houston regional office would provide an investigator with the opportunity to be present to observe the audit. This notification is especially needed because the adopted rules only require one audit per site each year.

Dow recommended that the owner or operator be allowed to provide a verbal or written notification containing the auditing schedule for the year with updates submitted as necessary for §115.788(c).

The commission has not made the suggested change, because the method of conducting the audits and the numbers of audits to be performed has been revised to a single audit each year.

Dow requested clarification of "completion of the audit" in §115.788(d) relative to submitting results from the audit.

The audit is considered complete when the owner or operator has received the completed audit report from the third-party organization. The owner or operator must submit the audit report and, if applicable, a corrective action plan as specified in §115.788(e), within 30 days after completion of the audit. The owner or operator is responsible for ensuring that the third-party organization delivers the audit report in a timely manner to be compliant with §115.788(a)(2)(A).

Dow requested confirmation that the use of data from the most recent monitoring period is acceptable under §115.788(d)(2) when comparing the percentage of leaking components identified by the independent third-party organization during the field survey and by the contracted or usual monitoring service.

The commission revised the reporting requirements. The area that this comment is addressing is now provided in §115.788(d)(3). The site's percentage of leaking components is based on the average of the previous four quarters of monitoring.

TCC opposed the requirement for a corrective action plan in §115.788(e) and expressed a belief that it is an unnecessary paperwork burden. TCC suggested that the owner of the audit indicate in the final report how identified deficiencies will be addressed. Dow recommended that the term "corrective action plan" be avoided in the §115.788(e) audit provisions because it carries a specific meaning within the general rules that govern excessive emission events.

The commission disagrees with the commenters that the requirement to include corrective action plans with the audit report is unnecessary. The intent of the requirement is to ensure that an owner or operator has identified any deficiencies in the monitoring program and has taken steps to correct those deficiencies. Section 115.788(e) does not specify the exact content of the corrective action plan or imply that the corrective action plan must meet the requirements of Chapter 101. Therefore, the commission has not made any changes in response to this comment.

Sierra Club commented that no time frame is given in §115.788(e) for when the plan must be submitted, and suggested no later than 30 days after the report has been completed and provided to the regulated entity.

The rule already requires the timing suggested by the commenter. If a corrective action plan is needed it must be submitted with the audit report per §115.788(e). The audit report is required in §115.788(d) to be furnished to the Houston regional office and any local air pollution program with jurisdiction within 30 days after completion of the audit. The audit is considered complete when the owner or operator has received the completed audit report from the third-party organization. Therefore, the corrective action plan would be required within 30 days after completion of the audit.

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, that 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, that 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, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; and §382.016, concerning Monitoring Requirements – Examination of Records, that authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants.

§115.10. Definitions.

Unless specifically defined in Texas Health and Safety Code, Chapter 382, (also known as 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), 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 in the air, determined at least one meter upwind of the component to be monitored. Test Method 21 (40 Code of Federal Regulations Part 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 volatile organic compounds (VOC) collected by a capture system that is expressed as a percentage derived from the weight per unit time of VOCs entering a capture system and delivered to a control device divided by the weight per unit time of total VOCs generated by a source of VOCs.

(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 volatile organic compounds.

(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) **Emergency flare** - A flare that only receives emissions during an upset event.

(13) **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 that 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.

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

(15) **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.

(16) **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.

(17) **Heavy liquid** - Volatile organic compounds that have a true vapor pressure equal to or less than 0.044 pounds per square inch absolute (0.3 kiloPascal) at 68 degrees Fahrenheit (20 degrees Celsius).

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

(A) In Harris County, one or more of the following volatile organic compounds (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.

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

(20) **Incinerator** - For the purposes of this chapter, an enclosed control device that combusts or oxidizes volatile organic compound gases or vapors.

(21) **Internal floating cover** - A cover or floating roof in a fixed roof tank that 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 that 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.

(22) **Leak-free marine vessel** - A marine vessel with cargo tank closures (hatch covers, expansion domes, ullage openings, butterworth covers, and gauging covers) that 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 must meet the applicable rules or regulations of the marine vessel's classification society or flag state. Cargo tank pressure/vacuum valves must 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.

(23) **Light liquid** - Volatile organic compounds that have a true vapor pressure greater than 0.044 pounds per square inch absolute (0.3 kiloPascal) at 68 degrees Fahrenheit (20 degrees Celsius), and are a liquid at operating conditions.

(24) **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.

(25) **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 or less.

(26) **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.

(27) **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.

(28) **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.

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

(30) **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.

(31) **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.

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

(33) **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.

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

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

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

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

(38) **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.

(39) **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.

(40) **Strippable volatile organic compound (VOC)** - Any VOC in cooling tower heat exchange system water that is emitted to the atmosphere when the water passes through the cooling tower.

(41) **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).

(42) **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.

(43) **Transport vessel** - Any land-based mode of transportation (truck or rail) equipped with a storage tank having a capacity greater than 1,000 gallons that 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.

(44) **True partial pressure** - The absolute aggregate partial pressure of all volatile organic compounds in a gas stream.

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

(46) **Vapor control system or vapor recovery system** - Any control system that utilizes vapor collection equipment to route volatile organic compounds (VOC) to a control device that reduces VOC emissions.

(47) **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.

(48) **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 H: HIGHLY-REACTIVE VOLATILE ORGANIC COMPOUNDS

DIVISION 1: VENT GAS CONTROL

§§115.720, 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, that 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, that 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, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, that authorizes the commission to require information to develop an emissions inventory of air contaminants in the state; §382.016, concerning Monitoring Requirements – Examination of Records, that authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants; §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe sampling methods and procedures to be used to determine violations of and compliance with the commission's rules, variances, and orders; and §382.034, concerning Research and Investigations, that authorizes the

commission to conduct or require any research or investigations advisable or necessary to perform duties under Texas Health and Safety Code, Chapter 382.

§115.720. Applicability and Definitions.

(a) Applicability. In the Houston/Galveston/Brazoria area, as defined in §115.10 of this title (relating to Definitions), any site with a controlled or uncontrolled vent gas stream containing highly-reactive volatile organic compounds (HRVOC), as defined in §115.10 of this title, or a flare that emits or has the potential to emit HRVOC is subject to this division (relating to Vent Gas Control) in addition to the applicable requirements of Subchapter B, Divisions 2 and 6 of this chapter (relating to Vent Gas Control; and Batch Processes) and Subchapter D, Division 1 of this chapter (relating to Process Unit Turnaround and Vacuum-Producing Systems in Petroleum Refineries).

(b) Definitions. The following terms, when used in this division, have the following meanings, unless the context clearly indicates otherwise. Additional definitions for terms used in this division are found in §§3.2, 101.1, and 115.10 of this title (relating to Definitions).

(1) **Degassing safety device** - A device other than a flare used to prevent the release of unburned organic vapors from a geologic storage facility resulting from either equipment or containment failure.

(2) **Supplementary fuel** - Natural gas or fuel gas added to the gas stream to increase the net heating value.

(3) **Pilot gas** - Natural gas or fuel gas that does not contain greater than 5% by weight highly-reactive volatile organic compounds that is directed to the combustion point of a flare to maintain a continuous ignition source.

§115.722. Site-wide Cap and Control Requirements.

(a) The owner or operator of a site subject to this division shall additionally comply with the requirements of Chapter 101, Subchapter H, Division 6 of this title (relating to Highly-Reactive Volatile Organic Compound Emissions Cap and Trade Program).

(b) All sites subject to this division or Division 2 of this subchapter (relating to Cooling Tower Heat Exchange Systems) that are exempt from the highly-reactive volatile organic compound (HRVOC) emissions cap and trade program, in accordance with §101.392(a) of this title (relating to Exemptions), are limited to ten tons of HRVOC emissions per calendar year.

(c) Each site subject to this division is subject to the following emission limitations.

(1) HRVOC emissions at each site located in Harris County that is subject to this division or Division 2 of this subchapter must not exceed 1,200 pounds of HRVOC per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination.

(2) HRVOC emissions at each site located in the Houston/Galveston/Brazoria area as defined in §115.10 of this title (relating to Definitions), excluding Harris County, that is subject to this division or Division 2 of this subchapter must not exceed 1,200 pounds of HRVOC per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination.

(3) For any exceedance of the HRVOC emission limits specified in paragraph (1) or (2) of this subsection, the emission limits specified in paragraph (1) or (2) of this subsection must be used to determine compliance with subsection (a) or (b) of this section instead of the total amount of actual emissions.

(d) All flares must continuously meet the requirements of 40 Code of Federal Regulations §60.18(c)(2) - (6) and (d) as amended through October 17, 2000 (65 FR 61744) when vent gas containing HRVOC is being routed to the flare.

(1) Average net heating value over a one-hour block period will be used to demonstrate compliance with the minimum net heating value requirements.

(2) The exit velocity averaged over a one-hour block period must be used to demonstrate compliance with the maximum exit velocity requirements.

(e) 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) Except for pressure relief valves as defined in §115.10 of this title (relating to Definitions), each vent gas stream that is not controlled by a flare at a site 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) - (c) of this title (relating to Site-wide Cap and Control Requirements). For cyclic or batch processes, the HRVOC emissions shall be considered as zero during non-operational periods other than startup, shutdown, or maintenance activities.

(1) For each uncontrolled vent subject to the requirements of this subsection, the owner or operator shall:

(A) select an operational parameter or parameters that directly affects the HRVOC emissions from the vent;

(B) install, calibrate, maintain, and operate according to manufacturer's recommendations, a continuous monitoring system to monitor and record the parameter or parameters selected under subparagraph (A) of this paragraph; and

(C) establish operating limits for the selected parameter or parameters as the hourly average of the parameter or parameters during the HRVOC emission test required under this subsection.

(2) For each vent subject to the requirements of this subsection that is controlled by a control device other than a flare, the owner or operator shall:

(A) select an operational parameter or parameters that directly affects the HRVOC emissions directed to the control device;

(B) select an operational parameter or parameters of the control device that directly affects the control efficiency of the control device;

(C) install, calibrate, maintain, and operate according to manufacturer recommendations, continuous monitoring systems to monitor and record the parameters selected under subparagraphs (A) and (B) of this paragraph; and

(D) establish operating limits for the selected parameters required under subparagraphs (A) and (B) of this paragraph as the hourly averages of the parameters during the HRVOC emission test required under this subsection.

(3) To demonstrate compliance with the control requirements of §115.722(a) - (c) of this title during emission events and scheduled startup, shutdown, and maintenance activities, the owner or operator shall determine the HRVOC emissions from each vent using one of the following:

(A) testing using the appropriate reference methods and procedures specified in this section; or

(B) process knowledge and engineering calculations. If process knowledge and engineering calculations are used to determine HRVOC emissions during emission events and scheduled startup, shutdown, and maintenance activities, the monitoring plans required under paragraph (4) of this subsection must also include all process information and calculations used to calculate the HRVOC emissions.

(4) The owner or operator shall develop, implement, and follow a written monitoring plan for the continuous monitoring systems required in paragraphs (1) and (2) of this subsection prior to performing the monitoring and testing under this subsection. Upon written request by the executive director, the monitoring plans shall be submitted within 30 days for review. The executive director may require additional or alternative monitoring requirements. At a minimum, monitoring plans shall include:

(A) specifications for all monitors used in the continuous monitoring systems;

(B) process and control device information supporting the selection of parameters;

(C) actual testing or manufacturer data documenting the control efficiency of the control device; and

(D) schedule of quarterly inspections of the continuous monitoring systems to insure proper operation.

(5) After the initial HRVOC emission test required under this subsection, the owner or operator may perform additional emission testing to update the data used to demonstrate compliance with the control requirements of §115.722(a) - (c) of this title. Written notification of the testing must be submitted to the Houston Regional Office as specified in §115.726(a)(2) of this title.

(6) Testing using the appropriate reference methods and procedures specified in §115.125 of this title that was conducted prior to December 31, 2004, may be used in lieu of conducting the testing specified in this subsection, provided that:

(A) the owner or operator of the affected source obtains approval for the testing report and data from the executive director if the prior testing was not performed as a demonstration of compliance with an applicable state permit, other state rule, or federal regulation, and the test report submitted to the commission; and

(B) 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.

(C) the operational parameters selected as required under paragraphs (1) or (2) of this subsection were monitored at the time of testing with a monitoring system meeting the requirements of this subsection or an equivalent monitoring system. If the prior testing meets all provisions under this paragraph and is used to satisfy the testing requirement of this subsection, then the owner or operator shall comply with the monitoring system and written monitoring plan requirements of this subsection by no later than the compliance schedule in §115.729 of this title (relating to Counties and Compliance Schedules) instead of the time required in paragraph (4) of this subsection.

(7) 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.

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

(i) identification of each vent expected to be identical;

(ii) each specific vent to be tested;

(iii) a detailed technical explanation demonstrating that the measured emissions from the selected vents can be expected to be representative of emissions from all vents;

(iv) 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;

(v) maintenance records for each vent and associated process demonstrating the vents and associated processes have been maintained in a similar manner; and

(vi) 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.

(B) 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 must be submitted to the executive director no later than 60 days after completion of testing. The executive director will determine if any further testing is required based on the review of the test results. If further testing is required, the owner or operator must perform the additional testing no later than 60 days after receiving written notification from the executive director.

(C) To demonstrate compliance with the control requirements of §115.722(a) - (c) of this title, the HRVOC emission test results from the vent gas stream with the maximum HRVOC emission rate of those vents tested under this paragraph must be used for those vent gas streams for which a waiver of testing, temporary or permanent, has been authorized.

(b) The following alternatives may be used in lieu of the testing requirements of subsection (a) of this section, for vent gas streams that are not controlled by a flare or are not pressure relief valves. The vent gas stream must comply with the process parameter monitoring requirements of subsection (a) of this section, except as specified in paragraph (1)(D) of this subsection.

(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 quarterly 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;

(C) the measured concentration shall be used in combination with flow rate determined in accordance with subparagraph (D) of this paragraph to determine the hourly HRVOC emission rate;

(D) the following parameter monitoring requirements are used in lieu of the requirements of subsection (a)(1) or (2) of this section:

(i) the owner or operator must install, calibrate, maintain, and operate according to manufacturer's recommendations, a continuous monitoring system on the vent or in the associated process systems sufficient to determine the volumetric flow; and

(ii) if volumetric flow rate is not monitored directly, the owner or operator must determine through engineering calculations, manufacturer's information, or actual testing the correlation between the monitored parameter and the volumetric flow rate; and

(E) the owner or operator complies with the requirements for a written monitoring plan specified in subsection (a)(4) of this section.

(2) Process knowledge, including scientific calculations and other process monitoring data sufficient to demonstrate compliance status, may be used to determine maximum potential HRVOC hourly emission data. Types of vent gas streams for which process knowledge may be used in lieu of testing are:

(A) analyzer vents;

(B) steam system vents;

(C) vent gas streams where there is no HRVOC present except during emissions events; or

(D) degassing safety devices, as defined in §115.720 of this title (relating to Applicability and Definitions).

(c) Affected pressure relief valves not controlled by a flare shall be monitored as follows.

(1) Install, calibrate, maintain, and operate according to manufacturer's recommendations, a continuous monitoring system on the pressure relief valve or in the associated process systems sufficient to determine:

(A) the time and duration of each pressure relief event;

(B) the status of the pressure relief valve as either:

(i) open or closed to the atmosphere; or

(ii) the percentage the valve is open to the atmosphere; and

(C) the volumetric flow rate during a pressure relief event.

(i) If volumetric flow rate is not monitored directly, the owner or operator must determine through engineering calculations, manufacturer's information, or actual testing the correlation between the monitored parameter and the percentage the pressure relief valve is open to the atmosphere to the volumetric flow rate.

(ii) If the monitoring system only indicates an open or closed status as specified in subparagraph (B)(i) of this paragraph, the owner or operator must assume the pressure

relief valve is 100% open during a pressure relief event for purposes of calculating volumetric flow rate.

(2) For purposes of determining compliance with the control requirement of §115.722(a) - (c) of this title during pressure relief events, the owner or operator may use process knowledge, including scientific calculations and other process monitoring data, to determine HRVOC emission rates. The volumetric flow rate determined in accordance with paragraph (1)(C) of this subsection shall be used in combination with the process knowledge to determine HRVOC emission rates.

(3) The owner or operator shall develop, implement, and follow a written monitoring plan to satisfy the requirements of paragraphs (1) and (2) of this subsection. The monitoring plan must include:

(A) specifications for all monitors used to satisfy the requirements of paragraphs (1) and (2) of this subsection;

(B) all engineering calculations, manufacturer's information, or actual testing supporting the correlation of the monitored parameters to actual volumetric flow rate specified in paragraph (1)(C)(i) of this subsection;

(C) supporting documentation of the actual testing or process knowledge used to determine HRVOC emissions as provided in paragraph (2) of this subsection;

(D) at a minimum, quarterly inspections of all pressure relief valves and associated monitors to insure proper operation per the manufacturer's specifications; and

(E) a list identifying all pressure relief valves in HRVOC service subject to the requirements of this subsection.

(4) Upon written request by the executive director, the monitoring plan required under paragraph (3) of this subsection must be submitted within 30 days for review. The executive director may require additional or alternative monitoring requirements.

(d) Except as specified in subsections (e) - (k) of this section, the owner or operator of an affected flare must conduct continuous monitoring, to demonstrate compliance with §115.722(a) - (d) of this title 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 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. 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 must be monitored continuously. The monitors must be calibrated to meet accuracy specifications as follows:

(A) the temperature monitor must be calibrated annually to within ±2.0% at absolute temperature;

(B) the pressure monitor must be calibrated annually to within ±5.0 mm Hg; and

(C) the flow monitor, or velocity monitor used to determine flow rate, must 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 must 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 must 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 must be collected from a location on the main flare header such that the measured constituents,

including any supplementary fuel, are representative of the combined gas combusted in the flare system. Net heating value of the gas combusted in the flare must 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 must be used to demonstrate continuous compliance with the requirements of §115.722(a) - (d) of this title. Pilot gas may not be included in the determination of the net heating value.

(A) Calibration of the on-line analyzer shall be as follows:

(i) for the HRVOC constituents, 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 must 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 must be performed at least once every calendar week instead of once every 24 hours. The calibration gases used for calibration procedures must be in accordance with Section 7.1 of Performance Specification 9;

(ii) for the constituents monitored to determine net heating value and molecular weight, the owner or operator may elect to follow either the calibration procedures specified for HRVOC constituents in clause (i) of this subparagraph or the calibration procedures recommended by the analyzer manufacturer. If the owner or operator elects to follow manufacturer's recommended procedures:

(I) those calibration procedures must include, at a minimum, single point calibration checks at least once every calendar week to meet the acceptance criteria specified in Section 10.2 of Performance Specification 9 with certified standards of the top two non-HRVOC constituents affecting molecular weight and net heating value; and

(II) the owner or operator shall include in the quality assurance plan (QAP) required under §115.726(a) of this title, manufacturer's information and data to demonstrate the accuracy and reliability of the analyzer for those monitored constituents for which routine calibration checks are not performed;

(iii) the range of calibration standards for the HRVOCs and other constituents may be based on the typical concentrations observed rather than the full potential range of concentrations. Data must be included in the QAP required under §115.726(a) of this title to demonstrate the accuracy of the analyzer at maximum potential concentrations outside of the proposed calibration range; and

(iv) the executive director may specify additional calibration requirements during approval of the QAP under §115.726(a)(1)(B) of this title.

(B) If the on-line analyzer, required in this paragraph, measures concentrations on a dry basis, the results must be corrected for moisture when determining net heating value according

to the requirements in 40 CFR §60.18(f)(3) or when determining mass rates using volumetric flow rates that are on a wet basis. The following methods may be used to determine moisture for this correction:

(i) a continuous moisture analyzer installed, calibrated, maintained, and operated according to the manufacturer's recommendations;

(ii) assume saturated moisture conditions for the temperature and pressure at the sample extraction point in the flare header for conditions up to 20% moisture by volume;

(iii) assume 0% moisture for flare systems where moisture is not expected to be present due to the process nature of the vent streams routed to the flare; or

(iv) process information and engineering calculations for conditions, such as steaming operations, where moisture is expected to be greater than 20% by volume;

(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. The percent measurement data availability must be calculated as the total flare operating hours for which valid quality-assured data was recorded divided by the total flare operating hours. Time required for normal calibration checks required under paragraphs (1) and (2) of this subsection is not considered downtime for purposes of this calculation;

(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 ten 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 must 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 must 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 must be calculated according to the equation given in 40 CFR §60.18(f)(3). During periods of monitor downtime, these samples must be used to demonstrate that continuous compliance with the requirements of §115.722(a) - (d) of this title is met;

(5) for each one-hour block period, calculate the average net heating value of the gas combusted in the flare according to the equation given in 40 CFR §60.18(f)(3). Pilot gas must not be included in the determination of the net heating value;

(6) for each one-hour block period, calculate the average actual exit velocity of the flare based on continuous flow rate, temperature, and pressure monitor data, according to 40 CFR §60.18(f)(4); and

(7) calculate the HRVOC hourly average mass emission rates from the flare using the data gathered according to paragraphs (1) - (6) 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 one-hour block period when the flare is not in compliance with the net 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.

(e) Flares used solely for abatement of emissions from marine loading operations or transport vessel loading and unloading operations are not required to comply with the monitoring requirements of subsection (d) of this section, provided the following specific requirements are satisfied.

(1) To demonstrate compliance with the minimum net heating value requirements of §115.722(d) of this title, a calorimeter must 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.

(2) The flare's actual exit velocity for each loading activity must be calculated on a one-hour block average basis, 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) to demonstrate compliance with the exit velocity requirements of §115.722(d) of this title.

(3) The HRVOC hourly average mass emission rates from the flare must be calculated to demonstrate compliance with the site-wide cap in §115.722 of this title, using total HRVOC sent to the flare calculated based on loading emission calculations, 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 net heating value and exit velocity requirements of 40 CFR §60.18. During each one-hour block period when the flare does not meet the net heating value or exit velocity requirements of 40 CFR §60.18, a destruction efficiency of 93% must be assumed to calculate HRVOC mass emission rates.

(4) For flares that receive greater than 95% of an individual HRVOC at all times, the owner or operator may use process knowledge to determine net heating value for demonstrating compliance with §115.722(d) of this title.

(f) Flares used solely for abatement of emissions from scheduled or unscheduled maintenance, startup, or shutdown activities must comply with the continuous monitoring requirements in subsection (d) of this section, or satisfy all of the following requirements.

(1) A single flare must not be operated in HRVOC service for more than 720 hours at a site in any 12 consecutive months.

(2) The total number of hours for which a site may send HRVOCs temporarily to multiple flares as described in this subsection must not exceed 1,440 hours in 12 consecutive months.

(3) To demonstrate compliance with the minimum net heating value requirements of §115.722(d) of this title, a calorimeter must 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.

(4) The flow rate of the gas routed to the flare, in standard cubic feet per minute must be determined by either:

(A) complying with the monitoring requirements of subsection (d)(1) of this section; or

(B) using process knowledge and engineering calculations.

(5) The flare's actual exit velocity for each activity must be calculated on a one-hour block average basis, 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). The HRVOC hourly average mass emission rates from the flare must be calculated to demonstrate compliance with §115.722(a) - (c) of this title, using total HRVOC sent to the flare calculated based on process knowledge or actual measurement, assuming a 99% destruction efficiency for ethylene and propylene and a 98% destruction efficiency for all other HRVOCs when the flare meets the net heating value and exit velocity requirements of 40 CFR §60.18. During each one-hour block period when the flare does not meet the

net heating value or exit velocity requirements of 40 CFR §60.18, a destruction efficiency of 93% must be assumed to calculate HRVOC mass emission rates.

(6) For flares that at all times receive greater than 95% of an individual HRVOC, the owner or operator may use process knowledge to determine net heating value for demonstrating compliance with §115.722(d) of this title.

(g) For an emergency flare, as defined in §115.10 of this title, subject to the requirements of this division, the owner or operator shall:

(1) comply with the continuous monitoring requirements in subsection (d) of this section; or

(2) use process knowledge and engineering calculations to determine compliance with the requirements of §115.722(a) - (d) of this title during an upset event. If this option is selected the owner or operator shall comply with the following:

(A) for emergency flares equipped with a physical seal (e.g., a water seal) that prevents emissions from being sent to the flare except during an upset event, the owner or operator shall install, calibrate, operate, and maintain, according to manufacturer's specifications, a continuous monitoring system that:

(i) monitors the status of the physical seal to ensure that emissions are not directed to the flare except during an upset event;

(ii) automatically records the time and duration of each event when emissions are sent to the flare; and

(iii) verifies that the physical seal has been restored after each event;

(B) for emergency flares not equipped with a physical seal that prevents emissions from being sent to the flare except during an upset event, the owner or operator shall:

(i) install, calibrate, operate, and maintain, according to manufacturers' specifications, a flow monitoring or indicating system to determine and record the time and duration of each event when emissions are sent to the flare; and

(ii) determine through process knowledge, engineering calculations, or actual testing, the baseline flow rate from any purge/sweep gas and the minimum flow rate indicative of an upset event;

(C) the owner or operator shall develop, implement, and follow a written monitoring plan to satisfy the requirements of subparagraph (A) or (B) of this paragraph. The monitoring plan must include:

(i) specifications for all monitors used to satisfy the requirements of subparagraph (A) or (B) of this paragraph;

(ii) the engineering calculations, process information, and actual testing used to determine volumetric flow rate, flare tip exit velocity, net heating value, and HRVOC emissions for compliance with §115.722(a) - (d) of this title; and

(iii) at a minimum, quarterly inspections of the continuous monitoring system to ensure proper operation;

(D) upon written request by the executive director, the monitoring plans required in accordance with subparagraph (C) of this paragraph shall be submitted within 30 days for review. The executive director may require additional or alternative monitoring requirements; and

(E) the flare's actual exit velocity for each activity must be calculated on a one-hour block average basis, 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). The HRVOC hourly average mass emission rates from the flare must be calculated, using total HRVOC sent to the flare calculated based on process knowledge or actual measurement, assuming a 99% destruction efficiency for ethylene and propylene and a 98% destruction efficiency for all other HRVOCs when the flare meets the net heating value and exit velocity requirements of 40 CFR §60.18. During each one-hour block period

when the flare does not meet the net heating value or exit velocity requirements of 40 CFR §60.18, a destruction efficiency of 93% must be assumed to calculate HRVOC mass emission rates.

(h) Flares other than emergency flares that temporarily receive HRVOC emissions during any operation that is not a scheduled or unscheduled maintenance, startup, or shutdown activity as defined in §101.1 of this title must satisfy the following requirements.

(1) The flare must not be operated in HRVOC service for more than 336 hours at the plant site in any 12 consecutive months.

(2) The total number of hours for which a site may send HRVOCs temporarily to multiple flares as described in this subsection must not exceed 672 hours in 12 consecutive months.

(3) In lieu of the flow monitoring requirements of subsection (d)(1) of this section, the owner or operator may use one of the following to demonstrate compliance with §115.722(a) - (d) of this title:

(A) process knowledge;

(B) actual measurement; or

(C) for flares that temporarily receive HRVOC emissions from flare systems that are monitored in accordance with subsection (d) of this section, the flow monitoring data from the monitored flare system may be used as data substitution. Maximum one-hour average flow rate, excluding data from startups, shutdowns, maintenance, or emissions events, from the previous 30 operational days must be used to determine compliance with §115.722(a) - (d) of this title.

(4) In lieu of implementing the continuous monitoring requirements specified in subsection (d)(2) of this section, the owner or operator may use one of the following to demonstrate compliance with §115.722(a) - (d) of this title:

(A) for all flares in temporary HRVOC service, daily sampling in accordance with subsection (d)(4) of this section to determine net heating value and HRVOC concentrations; or

(B) for flares that temporarily receive HRVOC emissions for less than 72 consecutive hours from flare systems that are monitored in accordance with subsection (d) of this section, the monitoring data from the monitored flare system may be used as data substitution to satisfy compliance with §115.722(a) - (d) of this title. Maximum one-hour average total HRVOC concentrations and minimum one-hour average net heating value, excluding data from scheduled startups, shutdowns, maintenance, or emissions events, from the previous 30 operational days shall be used to determine compliance with §115.722(a) - (d) of this title.

(5) If an emissions event as defined in §101.1 of this title occurs while HRVOC emissions are being routed to a flare temporarily under this subsection, the owner or operator shall demonstrate compliance with the requirements of §115.722(a) - (d) of this title using process knowledge and engineering calculations in accordance with subsection (g)(2)(E) of this section.

(i) For flares specifically designed to receive and control liquid or dual phase streams containing HRVOCs, process knowledge and engineering calculations must be used to determine compliance with the requirements of §115.722(a) - (d) of this title in accordance with subsection (g)(2)(E) of this section.

(j) Flares that are used to control vent gases from metal alkyl production processes must comply with the continuous monitoring requirements in subsection (d) of this section, or satisfy the following requirements.

(1) The flow rate of the gas routed to the flare, in standard cubic feet per minute, must be determined by complying with the monitoring requirements of subsection (d)(1) of this section, for demonstrating compliance with the site cap and exit velocity requirements in §115.722(a) - (d) of this title, in accordance with subsection (g)(2)(E) of this section. The owner or operator may submit a request to the executive director for alternative operational parameter monitoring in lieu of the flow monitoring specified in this paragraph for situations in which direct flow monitoring is not possible.

(2) Process knowledge and engineering calculations may be used to determine net heating value and HRVOC concentrations for demonstrating compliance with §115.722(a) - (d) of this title in accordance with subsection (g)(2)(E) of this section.

(k) For flares that are in multi-purpose service (e.g., an emergency flare that is also used to control emissions from emissions events and scheduled startup, shutdown, and maintenance activities), the owner or operator shall:

(1) comply with all continuous monitoring requirements in subsection (d) of this section; or

(2) comply with the most stringent requirements of each applicable subsection of this section. For the purposes of this paragraph:

(A) only flares subject to the monitoring requirements of subsections (e), (f), or (g) of this section can be considered as multi-purpose flares;

(B) the requirements of the applicable subsections that shall apply are as follows:

(i) for determining minimum net heating value for demonstrating compliance with §115.722(d) of this title, the requirements in subsections (e)(1) or (f)(3) of this section apply;

(ii) to determine volumetric flow rate and HRVOC emissions for demonstrating compliance with the exit velocity requirements and the site-wide cap requirements in §115.722(a) - (d) of this title, the following requirements shall apply:

(I) the requirements in subsection (e)(2) and (3) of this section during any loading operation, as specified in subsection (e) of this section; and

(II) the requirements in subsection (f)(4) and (5) of this section during any emissions event or scheduled startup, shutdown, or maintenance activity;

(iii) for flares used for scheduled or unscheduled startup, shutdown, or maintenance activities, as specified in subsection (f) of this section, the operational time limits in subsection (f)(1) and (2) of this section apply for time periods involving those specified activities; and

(iv) for flares used as emergency flares, as specified in §115.725(g), the requirements in subsection (g)(2)(A) - (D) of this section apply; and

(C) multiple clauses under subparagraph (B) of this paragraph apply. For example, a flare used for emergencies and startup, shutdown, and maintenance activities is subject to subparagraph (B)(i), (ii)(II), (iii), and (iv) of this paragraph.

(l) The owner or operator shall continuously operate each monitoring system as required by this section at least 95% of the operational time of the applicable flare, vent gas stream, or pressure relief valve, averaged over a calendar year. The percent measurement data availability must be calculated as the total operating hours for which valid quality-assured data was recorded divided by the total operating hours. Time required for normal calibration checks required by the provisions of this section is not considered downtime for purposes of this calculation. For the purposes of this calculation, the following apply:

(1) the operational time of an affected flare is any time the flare has the potential to receive HRVOCs;

(2) the operational time of an affected vent gas stream is any time the vent gas stream has the potential to emit HRVOCs; and

(3) the operational time of an affected pressure relief valve is any time HRVOCs are present upstream of the pressure relief valve.

(m) Minor modifications to either test methods or monitoring methods may be approved by the executive director. Test methods or monitoring methods other than those specified in this section may be used if approved by the executive director and validated by 40 CFR Part 63, Appendix A, Test Method 301 (December 29, 1992). For the purposes of this subsection, substitute "executive director" in each place that Test Method 301 references "administrator." The owner or operator does not require prior approval from the executive director for the following alternative monitoring approaches.

(1) In lieu of monitoring constituents for net heating value in accordance with subsection (d)(2) of this section, the owner or operator may install an online calorimeter to determine the net heating value. The calorimeter must 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; and

(2) The owner or operator may elect to demonstrate compliance with the minimum net heating value requirements of §115.722(d) of this title using the following procedure:

(A) install, calibrate, operate, and maintain a continuous flow monitor to monitor the supplementary fuel used to increase the net heating value of the gas stream sent to the flare; and

(B) continuously maintain sufficient supplementary fuel flow to meet the minimum net heating value requirements specified in §115.722(d) of this title while assuming zero net heating value contribution from all vent gas streams routed to the flare.

(3) The owner or operator of a flare in dedicated service for storage tanks with 95% or greater of an individual HRVOC may elect to determine net heating value and HRVOC concentrations using process knowledge and engineering calculations in lieu of the on-line analyzer required in subsection (d)(2) of this section.

(n) Upon written request by the executive director, the owner or operator shall submit the engineering calculations and process information used to determine volumetric flow rate, flare tip exit velocity, net heating value, and HRVOC emissions for compliance with the requirements of §115.722(a) - (d) of this title where applicable under the requirements of this section. The information must be submitted within 30 days for review.

§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, as applicable :

(1) develop, implement, and follow a written 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) for each flare monitored in accordance with §115.725(d) of this title.

(A) The owner or operator shall maintain records on-site of the QAP and any revisions to the QAP.

(B) Upon written request by the executive director, the QAP required in this paragraph shall be submitted within 30 days for review. The executive director may specify revisions to the QAP;

(2) develop, implement, and follow a written test plan for flares and vent gas streams required to be tested in accordance with §115.725(a) of this title. The owner or operator must submit written notification to the Houston regional office at least 45 days prior to conducting any flare and vent gas stream testing required by §115.725(a) of this title to provide the commission opportunity to request a pretest meeting and observe the testing. The written notification must include, at a minimum, the following:

(A) the proposed test date; and

(B) the written test plan required by this paragraph.

(b) The owner or operator of a vent gas stream subject to the requirements of §115.725(a) of this title shall comply with the following recordkeeping requirements as applicable:

(1) maintain records of all testing conducted in accordance with §115.725(a) of this title to determine highly-reactive volatile organic compound (HRVOC) emission rates on a pounds-per-hour basis for each affected vent gas stream;

(2) maintain hourly records of the parameter monitoring in accordance with §115.725(a)(1) or (2) of this title;

(3) maintain records of the monitoring plans required under §115.725(a)(4) of this title;

(4) maintain hourly records of HRVOC emission rates on a pound-per-hour basis for each affected vent gas stream monitored in accordance with §115.725(b)(1) of this title;

(5) maintain records of all continuous emissions monitoring system calibrations and cylinder gas audits performed in accordance with §115.725(b)(1)(A) and (B) of this title;

(6) maintain records of all process information and calculations used to determine vent gas flow rate as specified in §115.725(b)(1)(C) of this title; and

(7) maintain records of all process information, actual testing, process monitoring data, and calculations used to comply with §115.725(a) of this title under the alternatives to the testing requirements in §115.725(b)(2) of this title;

(c) The owner or operator of a pressure relief valve subject to the requirements of §115.725(c) of this title shall comply with the following recordkeeping requirements:

(1) maintain records of the date, time, duration, volumetric flow rate, and speciated and total HRVOC emission rates on a pounds-per-hour basis for each pressure relief event;

(2) maintain hourly records of the parameter monitoring in accordance with §115.725(c)(1) of this title;

(3) maintain records of all process information, monitored data, and calculations used to determine volumetric flow rate and HRVOC hourly emission data as specified in §115.725(c)(2) of this title; and

(4) maintain records of the monitoring plans required under §115.725(c)(3) of this title.

(d) The owner or operator of a flare at a site 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 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;

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

(5) for flares subject to the monitoring requirements of §115.725(e) of this title, maintain records of each loading activity including, but not limited to:

(A) the nominal size of vessel being loaded;

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

(C) any compounds loaded at a concentration greater than 1% by weight, in addition to the compounds at a concentration greater than 1% by weight loaded into the vessel immediately previous to the current loading operation, if the vessel being loaded is not clean;

(D) the quantity of material loaded;

(E) the loading rate in gallons per minute;

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

(G) all process information, monitored data, and calculations used to determine volumetric flow rate and HRVOC hourly emission data;

(6) for flares used solely for the abatement of emissions from scheduled or unscheduled maintenance, startup, or shutdown activities in §115.725(f) of this title, the owner or operator shall maintain records, including, but not limited to:

(A) the date, time, and duration for each flaring event;

(B) the volumetric flow rate, in standard cubic feet per minute, of the gas routed to the flare recorded in 15-minute block average periods, or portion thereof, for each flaring event; and

(C) all process information, monitored data, and calculations used to determine volumetric flow rate and HRVOC hourly emission data;

(7) for emergency flares subject to the requirements of §115.725(g) of this title, maintain records including, but not limited to:

(A) the date, time, and duration for each flaring event;

(B) the volumetric flow rate, in standard cubic feet per minute, of the gas routed to the flare recorded in 15-minute block average periods, or portion thereof, for each flaring event;

(C) all process information, monitored data, and calculations used to determine net heating value, volumetric flow rate, and HRVOC hourly emission data;

(D) hourly records of the parameter monitoring in accordance with §115.725(g)(2)(A) or (B) of this title; and

(E) records of the monitoring plans required under §115.725(g)(2)(C) of this title;

(8) for flares subject to the requirements of §115.725(h) or (i) of this title, maintain records including, but not limited to:

(A) the date, time, and duration for each flaring event;

(B) the volumetric flow rate, in standard cubic feet per minute, of the gas routed to the flare recorded in 15-minute block average periods, or portion thereof, for each flaring event; and

(C) all process information, monitored data, and calculations used to determine net heating value, volumetric flow rate, and HRVOC hourly emission data;

(9) for flares subject to the requirements of §115.725(j) of this title, the owner or operator shall maintain records including, but not limited to:

(A) the volumetric flow rate, in standard cubic feet per minute, of the gas routed to the flare recorded in 15-minute block average periods, or portion thereof, for each flaring event;

(B) all process information, monitored data, and calculations used to determine net heating value and HRVOC hourly emission data; and

(C) hourly records of parameter monitoring, if alternative parameter monitoring is approved by the executive director as specified in §115.725(j)(1)(A) of this title; and

(10) for flares considered to be multi-purpose flares, as specified in §115.725(k) of this title, the owner or operator shall maintain all applicable records as required in paragraphs (5) - (7) of this subsection.

(e) Records for exemptions in §115.727(a) - (e) of this title (relating to Exemptions) shall include the following.

(1) The owner or operator of any site claiming exemption under §115.727(a) of this title shall maintain records to document that each vent gas stream that is routed to a flare contains less than 5.0% by weight HRVOC at all times and each vent gas stream not 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 that 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 that demonstrate continuous compliance with the exemption criteria of §115.727(c) of this title; or

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

(f) The owner or operator claiming an exemption under §115.727(e) of this title shall submit written notification to the executive director no later than December 31, 2005.

(g) The owner or operator of each site subject to §115.722 of this title shall maintain daily records to demonstrate compliance with the tons per calendar year emissions limits specified in §115.722(a) and (b) of this title, including:

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

(2) all emissions from flares, vents, and pressure relief valves subject to the requirements of §115.725 of this title.

(h) The owner or operator of each site subject to §115.722 of this title shall maintain hourly records to demonstrate compliance with the one-hour block emissions limits specified in §115.722(c) of this title, including:

(1) cooling tower emissions from cooling towers that are subject to Division 2 of this subchapter; and

(2) all emissions from flares, vents, and pressure relief valves subject to the requirements of §115.725 of this title.

(i) The owner or operator shall maintain on-site, 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, United States Environmental Protection Agency, or any local air pollution control agency with jurisdiction.

(j) The owner or operator of an affected flare, vent gas stream, or pressure relief valve subject to the requirements of this division that is reclassified as to the applicable requirements of the division or the exemption status, shall comply with the following:

(1) for affected flares, vent gas streams, or pressure relief valves that become exempt from the requirements of this division, maintain records of the date that the exemption became applicable as well as the recordkeeping requirements of subsection (e) of this section; and

(2) for affected flares, vent gas streams, or pressure relief valves that are reclassified as to operational status and the applicable requirements of the division (i.e., a continuous operation flare monitored in accordance with §115.725(d) of this title reclassified as an emergency flare and monitored according to §115.725(g) of this title), maintain records of the date of change in operational status and reclassification.

§115.727. Exemptions.

(a) Any site 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) - (c) 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 by weight:

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

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

(c) For vent gas streams that are not routed to a flare, the following exemptions may apply.

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

(2) A vent gas stream that has the potential to emit HRVOCs, but that has an HRVOC concentration less than 100 ppmv at all times or has a maximum potential flow rate equal to or less than 100 dry standard cubic feet per hour is exempt from this division with the exception of the recordkeeping requirements of §115.726(e)(3)(A) of this title. The maximum potential HRVOC emissions for the sum of all vent gas streams claimed under this exemption, must be less for the account specified in §115.722(a) or (b) of this title than 0.5 tons per year.

(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(e)(3)(A) of this title:

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

(B) pressure tanks that 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.

(d) 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(e)(3)(B) of this title.

(e) Any flare that will be permanently out of service by April 1, 2006, is exempt from the requirements of this division, with the exception of the notification and recordkeeping requirements in §115.726(f) of this title.

(f) All sites that are subject to this division and that are located in the Houston/Galveston/ Brazoria area as defined in §115.10 of this title (relating to Definitions), excluding Harris County, are exempt from §115.722(b) and (c)(2) of this title, except as provided in §115.729(a)(3) of this title (relating to Counties and Compliance Schedules).

§115.729. Counties and Compliance Schedules.

(a) The owner or operator of each vent gas stream, pressure relief valve, and flare 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) as soon as practicable, but no later than December 31, 2005, with the exception of the following:

(1) §115.722(a) and (c)(2) 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 not later than January 1, 2007;

(2) §115.722(b) and (c)(1) of this title for which the owner or operator shall demonstrate compliance as soon as practicable, but no later than April 1, 2006; and

(3) the exemption in §115.727(f) of this title (relating to Exemptions) will no longer apply upon public notice of revocation by the commission. Upon revocation of §115.727(f) of this title, sites subject to this division located in the Houston/Galveston/Brazoria area, as defined in §115.10 of this title (relating to Definitions), excluding Harris County, shall comply with paragraphs (1) and (2) of this subsection by the dates specified in those paragraphs, or within 180 days of public notice, whichever is later.

(b) For vent gas streams, flares, and pressure relief valves that become subject to the requirements of this subdivision after December 31, 2005, testing and monitoring must be conducted as soon as practicable, but no later than 60 days after being brought into highly-reactive volatile organic compound service.

SUBCHAPTER H: HIGHLY-REACTIVE VOLATILE ORGANIC COMPOUNDS

DIVISION 2: COOLING TOWER HEAT EXCHANGE SYSTEMS

§§115.760, 115.761, 115.764, 115.766, 115.767, 115.769

STATUTORY AUTHORITY

The amendments and new sections are adopted under Texas Water Code, §5.103, concerning Rules, and §5.105, concerning General Policy, that 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, that authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amendments and new sections are also adopted under Texas Health and Safety Code, §382.002, concerning Policy and Purpose, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, that authorizes the commission to require information to develop an emissions inventory of air contaminants in the state; §382.016, concerning Monitoring Requirements – Examination of Records, that authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants; §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe sampling methods and procedures to be used to determine violations of and compliance with the commission's rules, variances, and orders; and §382.034, concerning Research and

Investigations, that authorizes the commission to conduct or require any research or investigations advisable or necessary to perform duties under Texas Health and Safety Code, Chapter 382.

§115.760. Applicability and Cooling Tower Heat Exchange System Definitions.

(a) Applicability. Any site with a cooling tower heat exchange system in the Houston/ Galveston/Brazoria area, as defined in §115.10 of this title (relating to Definitions), that emits or has the potential to emit a highly-reactive volatile organic compound, as defined in §115.10 of this title, is subject to the requirements of this division (relating to Cooling Tower Heat Exchange Systems) in addition to the applicable requirements of any other division in this subchapter or any other subchapter in this chapter.

(b) Definitions. The following terms, when used in this division, have the following meanings, unless the context clearly indicates otherwise. Additional definitions for terms used in this division are found in §§3.2, 101.1, and 115.10 of this title (relating to Definitions).

(1) **Cooling tower heat exchange system** - Cooling towers, associated heat exchangers, pumps, and ancillary equipment where water is used as a cooling medium and the heat from process fluids is transferred to cooling water. This does not include fin-fan coolers. This also does not include comfort cooling tower heat exchange systems (i.e., those used exclusively in cooling, heating, ventilation, and air conditioning systems).

(2) **Jacketed reactor** - A heat exchange system where water is used as a cooling medium around a heavy walled reactor rather than a conventional heat exchanger tube design. For the purposes of this definition, a reactor is a device or vessel in which one or more chemicals or reactants, other than air, are combined or decomposed in such a way that the molecular structure of one or more chemicals are altered and one or more new organic compounds are formed.

(3) **Finite volume system** - A system in which a fixed amount of highly-reactive volatile organic compounds is contained or circulated, and changes in the amount of highly-reactive volatile organic compound in the system can only occur through transfers into the system to maintain the system level, transfers out of the system for maintenance purposes, or leakage out of the system (e.g., a propylene refrigeration system).

§115.761. Site-wide Cap.

(a) The owner or operator of a site subject to this division shall additionally comply with the requirements of Chapter 101, Subchapter H, Division 6 of this title (relating to Highly-Reactive Volatile Organic Compound Emissions Cap and Trade Program).

(b) All sites subject to this division or Division 1 of this subchapter (relating to Vent Gas Control) that are exempt from the highly-reactive volatile organic compound (HRVOC) emissions cap and trade program, in accordance with §101.392(a) of this title (relating to Exemptions), are limited to ten tons of HRVOC emissions per calendar year.

(c) Each site subject to this division is subject to the following emission limitations.

(1) HRVOC emissions at each site located in Harris County that is subject to this division or Division 1 of this subchapter must not exceed 1,200 pounds of HRVOCs per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination.

(2) HRVOC emissions at each site located in the Houston/Galveston/Brazoria area as defined in §115.10 of this title (relating to Definitions), excluding Harris County, that is subject to this division or Division 1 of this subchapter must not exceed 1,200 pounds of HRVOCs per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination.

(3) For any exceedance of the HRVOC emission limits specified in paragraph (1) or (2) of this subsection, the emission limits specified in paragraph (1) or (2) of this subsection must be used to determine compliance with subsection (a) or (b) of this section instead of the total amount of actual emissions.

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

§115.764. Monitoring and Testing Requirements.

(a) The owner or operator of a cooling tower heat exchange system with 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 ± 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. The continuous monitoring system must have a minimum detection limit capability of no more than 25 parts per billion by weight (ppbw) of strippable VOC in the cooling water. The continuous monitor must be calibrated with methane or a VOC that best represents potential leakage into the cooling tower system and the emissions from the system. Calibration must be checked weekly or more frequently, as necessary, to maintain a monitor drift of less than 5.0%. During out-of-order periods of the VOC monitor(s) of 24 hours or greater, a sample must be collected for total VOC analysis according to the air-stripping method in Appendix P of the Texas Commission on Environmental Quality Sampling Procedures Manual (January 2003). This sample must 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. The percent measurement data availability must be calculated as the total operating hours of the cooling tower heat exchange system for which valid quality-assured data was recorded divided by the total operating hours of the cooling tower heat exchange system. Time required for normal calibration checks required under this subsection is not considered downtime for purposes of this calculation;

(4) determine the speciated strippable highly-reactive volatile organic compound (HRVOC) concentration by collecting samples from each inlet of each cooling tower at least once per month in accordance with the air-stripping method in Appendix P;

(5) if the concentration of total strippable VOC is equal to or greater than 50 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 the air-stripping method in Appendix P from each inlet of the affected cooling tower at least once daily, beginning on the next calendar day. 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 HRVOC 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 sampling system for the continuous on-line monitoring system must be demonstrated equivalent to the

air-stripping apparatus used in Appendix P for determining strippable HRVOC concentrations in the water as specified in subsection (f) of this section. The continuous on-line monitor system must satisfy the requirements of Sections 8.3, 10, 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). The multi-point calibration procedure in Section 10.1 of Performance Specification 9 must be performed at least once every calendar quarter instead of once every month. During out-of-order periods of the on-line HRVOC monitor(s) of 24 hours or greater, sampling must be performed for total and speciated HRVOC analysis according to the air-stripping method in Appendix P. Sampling must be performed at least three times per calendar week, with an interval of no less than 36 hours between sampling times, until the continuous on-line monitor is properly operating and within the required performance specifications.

(A) During out-of-order periods of the monitoring system, data should be handled as follows for purposes of recordkeeping and demonstrating compliance:

(i) For each out-of-order period less than 24 hours, the maximum one-hour average HRVOC concentrations from the 24-hour period immediately prior to the out-of-order period must be used; and

(ii) For each out-of-order period of 24 hours or greater, the maximum one-hour average HRVOC concentrations from the 24-hour period immediately prior to the out-of-order period must be used for the time period from the initial outage of the monitoring system to time of

collection of the first manual sample required by this paragraph. The results of each manual sample must be used for the time period from collection of that sample to the collection of the subsequent sample, or to the time that the continuous monitoring system is on-line and within the required performance specifications.

(B) For periods that only the analyzer system is out of order and the sampling system (i.e., HRVOC sparging or stripping system) is still functioning within normal specifications, the owner or operator may elect to collect the manual samples required by this paragraph using the sampling system of the continuous HRVOC monitoring system.

(b) The owner or operator of a cooling tower heat exchange system with a design capacity to circulate less than 8,000 gpm of cooling water or a cooling tower heat exchange system in dedicated service to a jacketed reactor, as defined in §115.760(b) of this title (relating to Applicability and Cooling Tower Heat Exchange System Definitions), shall:

(1) install, calibrate, operate, and maintain a continuous flow monitor on each inlet of each cooling tower. Each monitor must be calibrated on an annual basis to within $\pm 5.0\%$ accuracy. When the cooling tower flow monitor is down, flow measurements must 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 the air-stripping method in Appendix P with an interval of not less than 48 hours between samples;

(3) 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. The percent measurement data availability must be calculated as the total operating hours of the cooling tower heat exchange system for which valid quality-assured data was recorded divided by the total operating hours of the cooling tower heat exchange system. Time required for normal calibration checks required under this subsection is not considered downtime for purposes of this calculation;

(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 the air-stripping method in Appendix P;

(5) if the concentration of total strippable VOC is equal to or greater than 50 ppbw in the cooling tower water, collect an additional sample to determine total strippable VOC, speciated HRVOC, and total HRVOC from each inlet of the affected cooling tower at least once daily, beginning on the next calendar day, in accordance with the air-stripping method in Appendix P. The additional sampling to determine total strippable VOC, speciated HRVOC, and total HRVOC must 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 HRVOC 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 sampling system for the continuous on-line monitoring system must be demonstrated equivalent to the air-stripping apparatus used in Appendix P for determining strippable HRVOC concentrations in the water as specified in subsection (f) of this section. The continuous on-line monitor system must satisfy the requirements of Sections 8.3, 10, 13.1, and 13.2 of 40 CFR Part 60, Appendix B, Performance Specification 9. The multi-point calibration procedure in Section 10.1 of Performance Specification 9 must be performed at least once every calendar quarter instead of once every month. During out-of-order periods of the on-line HRVOC monitor(s) of 24 hours or greater, sampling must be performed for total and speciated HRVOC analysis according to the air-stripping method in Appendix P. Sampling must be performed at least twice per calendar week, with an interval of no less than 72 hours between sampling times, until the continuous on-line monitor is properly operating and within the required performance specifications.

(A) During out-of-order periods of the monitoring system, data should be handled as follows for purposes of recordkeeping and demonstrating compliance.

(i) For each out-of-order period less than 24 hours, the maximum one-hour average HRVOC concentrations from the 24-hour period immediately prior to the out-of-order period must be used.

(ii) For each out-of-order period of 24 hours or greater, the maximum one-hour average HRVOC concentrations from the 24-hour period immediately prior to the out-of-order period must be used for the time period from the initial outage of the monitoring system to time of collection of the first manual sample required by this paragraph. The results of each manual sample must be used for the time period from collection of that sample to the collection of the subsequent sample, or to the time that the continuous monitoring system is on-line and within the required performance specifications.

(B) For periods that only the analyzer system is out of order and the sampling system (i.e., HRVOC sparging or stripping system) is still functioning within normal specifications, the owner or operator may elect to collect the manual samples required by this paragraph using the sampling system of the continuous HRVOC monitoring system.

(c) When periodic sampling is required, 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. The samples must be analyzed according to the procedures in Test Method 18, 40 CFR Part 60, Appendix A, and/or Method TO-14A, published in "U.S. EPA Compendium for Determination of Toxic Organic Compounds in Ambient Air (1996)," United States Environmental Protection Agency Document Number 625/R96/010B.

(d) 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, according to the air-stripping method in Appendix P. 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 continue until the total strippable VOC concentration drops below 50 ppbw.

(e) 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 a cooling tower heat exchange system 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 §115.766(i) of this title (relating to Recordkeeping and Reporting Requirements, a calculation methodology that 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 §115.766(a)(3) of this title.

(f) Minor modifications to the monitoring and testing methods in this section may be approved by the executive director. Monitoring and testing methods other than those specified in this section may be used if approved by the executive director and validated by 40 CFR Part 63, Appendix A, 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) In lieu of using the monitor location described in subsections (a), (b), and (h) of this section:

(1) the owner or operator of cooling tower heat exchange systems in which a single cooling tower services both HRVOC and non-HRVOC process units, or a single cooling tower that services multiple types of heat exchange systems (i.e., jacketed reactor or finite volume system), may:

(A) install a flow monitor or monitors, meeting the requirements of subsections (a)(1) and (b)(1) of this section at a point that represents the flow of cooling water from only the HRVOC-containing process units; and

(B) monitor the total strippable VOC or HRVOC concentration, in accordance with subsection (a), (b), (d), or (h) of this section at a point leaving the HRVOC-containing process unit and prior to mixing with cooling tower water from other units; or

(2) the owner or operator of cooling tower heat exchange systems may elect to monitor cooling water flow rate at a location that is representative of the total flow rate to the cooling tower.

(h) In lieu of the requirements of subsection (a) of this section, the owner or operator of a cooling tower heat exchange system in dedicated service to a finite volume system, as defined in §115.760(b) of this title, with HRVOC and with a design capacity to circulate 8,000 gallons gpm or greater of cooling water may elect to comply with the following requirements:

(1) install, calibrate, operate, and maintain a continuous flow monitor on each inlet of each cooling tower. Each monitor must be calibrated on an annual basis to within $\pm 5.0\%$ accuracy. When the cooling tower flow monitor is down, flow measurements must 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 speciated strippable HRVOC concentration by collecting samples from each inlet of each cooling tower at least once per month in accordance with the air-stripping method in Appendix P;

(3) determine the total strippable VOC concentration by collecting samples from each inlet of each cooling tower at least twice per week in accordance with the air-stripping method in Appendix P with an interval of not less than 48 hours between samples;

(4) if the concentration of total strippable VOC is equal to or greater than 50 ppbw in the cooling tower water, collect an additional sample to determine total strippable VOC, speciated HRVOC, and total HRVOC from each inlet of the affected cooling tower at least once daily in accordance with the air-stripping method in Appendix P. The additional sampling to determine total strippable VOC, speciated HRVOC, and total HRVOC must continue on a daily basis until the concentration of total strippable VOC drops below 50 ppbw;

(5) install, calibrate, operate, and maintain a continuous monitoring system to monitor the inventory level of the HRVOC in the finite volume system;

(6) develop, implement, and follow a written monitoring plan to satisfy the requirements of paragraph (5) of this subsection. The monitoring plan must include:

(A) specifications for all monitors used to satisfy the requirements of paragraph (5) of this subsection;

(B) the normal hourly variation in the inventory level for the continuous monitoring system;

(C) all process information, design specifications, and engineering calculations, used to establish the normal hourly variation in the inventory level; and

(D) at a minimum, quarterly inspections of the continuous monitoring system to ensure proper operation;

(7) if the hourly inventory level monitored in accordance with paragraphs (5) and (6) of this subsection is not within the normal hourly variation in the inventory level established as required in paragraph (5) of this subsection, except during maintenance activities, then the owner or operator must perform sampling for total strippable VOC as specified in paragraph (3) of this subsection within 24 hours. If the concentration of total strippable VOC is equal to or greater than 50 ppbw in the cooling tower water, then the owner or operator shall perform daily sampling to determine total strippable VOC, speciated HRVOC, and total HRVOC in accordance with paragraph (4) of this subsection until the concentration of total strippable VOC drops below 50 ppbw; and

(8) upon written request by the executive director, the monitoring plan required in accordance with paragraph (6) of this subsection must be submitted within 30 days for review. The executive director may require additional or alternative monitoring requirements.

§115.766. Recordkeeping and Reporting 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 of this title (relating to Monitoring and Testing Requirements);

(3) maintain hourly records that document the emission rate in pounds per hour (lb/hr) for each hour for 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), (b), (d), or (h) of this title. The flow rate of the cooling water in conjunction with the most recently monitored concentration of the speciated HRVOC or total HRVOC in the cooling tower water, shall be used to calculate the respective emission rate in lb/hr. If the concentration results of the speciated HRVOC or total HRVOC analyses are below the minimum detection limit (i.e., non-detected), then half the detection limit(s) must be used to calculate HRVOC emissions;

(4) maintain hourly records of the total strippable VOC concentration in the cooling water for cooling tower heat exchanger systems monitored in accordance with §115.764(a)(2) of this title, and maintain records of each test for total strippable VOC concentration performed in accordance with §115.764(b)(2), (d), or (h) of this title. If the concentration results of the total strippable VOC testing or monitoring are below the minimum detection limit, then one-half the detection limit must be used to calculate average total strippable VOC concentration;

(5) maintain hourly records of the cooling water flow rate;

(6) 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

(7) for cooling tower heat exchange systems that comply with §115.764(h) of this title, maintain records including, but not limited to:

(A) the monitoring plan required by §115.764(h)(6) of this title;

(B) hourly records of the inventory level of the finite volume system from the continuous monitoring system required by §115.764(h)(6) of this title; and

(C) the date, time, purpose, and amount of all transfers of HRVOC into and out of the finite volume system;

(b) The owner or operator of any cooling tower heat exchange system claiming an exemption under §115.767 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 §115.767(1) of this title; or

(2) maintain records of the content of the process side fluid or intervening fluid in each heat exchanger to demonstrate continuous compliance with the exemption criteria of §115.767(2) and (5) 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, United States Environmental Protection Agency, 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(d) of this title shall maintain sufficient records to demonstrate that no individual heat exchanger has 5.0% or greater HRVOC in the process-side fluid.

(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(e)(1) of this title, shall maintain the following records for each pump:

(1) certified pump performance information from the manufacturer. If manufacturer's certified information is unavailable, then pump performance information that is generated by a qualified independent third-party organization using a code or standard of practice acceptable to the executive director may be used;

(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(e)(2) of this title, shall maintain the following records for each pump:

(1) the continuous measurement of cooling water pump discharge pressure;

(2) certified pump performance information from the manufacturer. If manufacturer's certified information is unavailable, then pump performance information that is generated by a qualified independent third-party organization using a code or standard of practice acceptable to the executive director may be used;

(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.

(g) The owner or operator of each site subject to §115.761 of this title shall maintain daily records to demonstrate compliance with the tons per calendar year emissions limits specified in §115.761(a) and (b) of this title, including:

(1) flare, vent gas, and pressure relief valve emissions that are subject to Division 1 of this subchapter (relating to Vent Gas Control); and

(2) all cooling towers subject to the requirements of §115.764 of this title.

(h) The owner or operator of each site subject to §115.761 of this title shall maintain hourly records to demonstrate compliance with the one-hour block emissions limits specified in §115.761(c) of this title, including:

(1) flare, vent gas, and pressure relief valve emissions that are subject to Division 1 of this subchapter; and

(2) all cooling towers subject to the requirements of §115.764 of this title.

(i) The owner or operator of an affected cooling tower heat exchange system shall develop, implement, and follow a written quality assurance plan (QAP) for the installation, calibration, operation, and maintenance for the monitoring equipment required by this division as follows.

(1) The owner or operator shall maintain records of the QAP and any revisions to the QAP on site.

(2) Upon written request by the executive director, the QAP required in this paragraph shall be submitted within 30 days for review. The executive director may specify revisions to the QAP.

(j) The owner or operator claiming an exemption under §115.767(4) of this title shall submit written notification to the executive director no later than December 31, 2005.

§115.767. Exemptions.

The following exemptions apply.

(1) Any cooling tower heat exchange system in which each individual heat exchanger with greater than 100 parts per million by weight (ppmw) highly-reactive volatile organic compounds (HRVOC) in the process side fluid is operated with the minimum pressure on the cooling water side at least five pounds per square inch, gauge (psig) greater than the maximum pressure on the process side, as demonstrated by continuous pressure monitoring and recording at all heat exchangers with greater than 100 ppmw HRVOC in the process side fluid, is exempt from the requirements of this division (relating to Cooling Tower Heat Exchange Systems), with the exception of the recordkeeping

requirements of §115.766(b) and (c) of this title (relating to Recordkeeping and Reporting Requirements).

(2) Any cooling tower heat exchange system in which no individual heat exchanger has greater than 100 ppmw HRVOCs in the process side fluid is exempt from the requirements of this division, with the exception of the recordkeeping requirements of §115.766(b) and (c) of this title.

(3) Any site for which no stream directed to a cooling tower heat exchange system contains 5.0% or greater by weight HRVOC is exempt from the requirements of §115.761 of this title (relating to Site-wide Cap).

(4) Any cooling tower heat exchange system that will be permanently out of service by April 1, 2006, is exempt from the requirements of this division, with the exception of the notification and recordkeeping requirements in §115.766(j) of this title.

(5) Any cooling tower heat exchange system with an intervening cooling fluid containing less than 100 ppmw of HRVOC between the process and the cooling water is exempt from the requirements of this division, with the exception of the recordkeeping requirements of §115.766(b) and (c) of this title. For purposes of this exemption:

(A) intervening fluid is a fluid that serves to isolate the cooling water from the process fluid and is not sent through a cooling tower or discharged; and

(B) discharge does not include emptying for maintenance purposes.

(6) All sites that are subject to this division and that are located in the Houston/ Galveston/Brazoria area as defined in §115.10 of this title (relating to Definitions), excluding Harris County, are exempt from §115.761(b) and (c)(2) of this title, except as provided in §115.769(a)(3) of this title (relating to Counties and Compliance Schedules).

§115.769. Counties and Compliance Schedules.

(a) The owner or operator of each cooling tower heat exchange system in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties shall demonstrate compliance with this division (relating to Cooling Tower Heat Exchange Systems) as soon as practicable, but no later than December 31, 2005, with the exception of the following:

(1) §115.761(a) and (c)(2) of this title (relating to Site-wide Cap) for which the owner or operator shall demonstrate compliance as soon as practicable, but no later than January 1, 2007;

(2) §115.761(b) and (c)(1) of this title for which the owner or operator shall demonstrate compliance as soon as practicable, but no later than April 1, 2006; and

(3) the exemption in §115.767(6) of this title (relating to Exemptions) will no longer apply upon public notice of revocation by the commission. Upon revocation of §115.767(6) of this

title, sites subject to this division located in the Houston/Galveston/Brazoria area, as defined in §115.10 of this title (relating to Definitions), excluding Harris County, shall comply with paragraphs (1) and (2) of this subsection by the dates specified in those paragraphs, or within 180 days of public notice, whichever is later.

(b) For cooling tower heat exchange systems that become subject to the requirements of this division after December 31, 2005, testing and monitoring must be conducted as soon as practicable, but no later than 60 days after being brought into highly-reactive volatile organic compound service.

SUBCHAPTER H: HIGHLY-REACTIVE VOLATILE ORGANIC COMPOUNDS

DIVISION 2: COOLING TOWER HEAT EXCHANGE SYSTEMS

§§115.766 - 115.768

STATUTORY AUTHORITY

The repeals are adopted under Texas Water Code, §5.103, concerning Rules, and §5.105, concerning General Policy, that 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, that authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The repeals are also adopted under Texas Health and Safety Code, §382.002, concerning Policy and Purpose, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, that authorizes the commission to require information to develop an emissions inventory of air contaminants in the state; §382.016, concerning Monitoring Requirements – Examination of Records, that authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants; and §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe sampling methods and procedures to be used to determine violations of and compliance with the commission's rules.

§115.766. Testing Requirements.

§115.767. Recordkeeping Requirements.

§115.768. Exemptions.

SUBCHAPTER H: HIGHLY-REACTIVE VOLATILE ORGANIC COMPOUNDS

DIVISION 3: FUGITIVE EMISSIONS

§§115.780 - 115.783, 115.786 - 115.789

STATUTORY AUTHORITY

The amendments are adopted under Texas Water Code, §5.103, concerning Rules, and §5.105, concerning General Policy, that 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, that 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, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; §382.014, concerning Emission Inventory, that authorizes the commission to require information to develop an emissions inventory of air contaminants in the state; §382.016, concerning Monitoring Requirements – Examination of Records, that authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants; §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe sampling methods and procedures to be used to determine violations of and compliance with the commission's rules, variances, and orders; and §382.034, concerning Research and Investigations, that authorizes the

commission to conduct or require any research or investigations advisable or necessary to perform duties under Texas Health and Safety Code, Chapter 382.

§115.780. Applicability.

(a) Any process unit or process within a petroleum refinery; synthetic organic chemical, polymer, resin, or methyl tert-butyl ether manufacturing process; or natural gas/gasoline processing operation in the Houston/Galveston/Brazoria area, as defined in §115.10 of this title (relating to Definitions), in which a highly-reactive volatile organic compound, 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 this division (relating to Fugitive Emissions) in addition to the applicable 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).

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

§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 that is subject to this division (relating to Fugitive Emissions). Such identification must allow for ready identification of the components, and distinction

from any components that 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) - (12) 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 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, United States Environmental Protection Agency, 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 the monitoring. Components that are unsafe to monitor shall be identified in a list made immediately 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 or that requires a permit for confined space entry as defined in 29 Code of Federal Regulations §1910.146.

A difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored annually.

(8) All pressure relief valves in gaseous service that are not equipped with a rupture disk upstream of the relief valve with a pressure-sensing device between the rupture disk and the pressure relief valve shall be monitored for fugitive leaks 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) For any pressure relief device that has vented directly to the atmosphere (uncontrolled), the associated vent must be monitored (with a hydrocarbon gas analyzer) and inspected within 24 hours after actuation and the results recorded in accordance with §115.786 of this title (relating to Recordkeeping Requirements). If the associated vent is considered unsafe to monitor, then the vent must be monitored as soon as possible during safe-to-monitor times. If the associated vent is considered difficult to monitor, it must be monitored within 15 days after a release. This requirement does not supersede any monitoring requirements found in §115.725 of this title (relating to Monitoring and Testing 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%.

(g) Except as provided in paragraph (2) of this subsection, 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 transfer electronic data from electronic datalogging devices to an electronic or hard copy database within seven days of monitoring.

(1) For all monitoring events in which an electronic data collection device is used, the collected monitoring data must 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.

(2) 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 paragraph (1) of this subsection. The owner or operator shall transfer any manually recorded monitoring data to the electronic or hard copy database within seven days of monitoring.

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

§115.782. Procedures and Schedule for Leak Repair and Follow-up.

(a) Tagging. Upon the detection or designation of a leaking component, a weatherproof and readily visible tag, bearing the component identification and the date the leak was detected, must be affixed to the leaking component. The tag must remain in place until the leaking component is repaired.

(b) General rule - time to repair.

(1) For leaks detected over 10,000 parts per million by volume (ppmv), a first attempt at repairing the leaking component shall be made no later than one business day after the leak is detected, and the component shall be repaired no later than seven calendar days after the leak is detected.

(2) For all other leaks, a first attempt at repairing the leaking component shall be made no later than five calendar days after the leak is detected, and the component shall be repaired no later than 15 calendar days after the leak is detected.

(c) Delay of repair.

(1) For all components (except valves specified in paragraph (2) of this subsection), repair may be delayed beyond the period designated in subsection (b) of this section for any of the following reasons:

(A) the component is isolated from the process and does not remain in highly-reactive volatile organic compound (HRVOC) service;

(B) 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 that 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 the United States Environmental Protection Agency (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 component's current screening concentration using Test Method 21 . The initial calculation must be performed within 30 days after the leak is detected. 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. If the mass emission sampling approach is used, it replaces the estimated emissions rate of the EPA correlation approach in the calculation;

(III) the daily mass emissions from each leaking component in HRVOC service in the process unit for which delay of repair is sought calculated as 24 times the hourly mass emission rate determined as required by subclause (II) of this clause,; and

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

(ii) the total daily mass emissions from leaking components in HRVOC service in the process unit for which delay of repair is sought as determined in clause (i)(IV) of this subparagraph will be less than the daily mass emissions resulting from shutdown, clearing, and subsequent startup of the unit as determined in clause (i)(I) of this subparagraph or 500 pounds, whichever is greater; 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 component on the shutdown list only after two unsuccessful attempts to repair a leaking component 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; or

(iv) repair or replacement of the component occurs at the next scheduled shutdown. The executive director, at his discretion, may require an early process unit shutdown, or other appropriate action, based on the number and severity of leaks awaiting a shutdown; or

(C) the components are pumps, compressors, or agitators, and:

(i) repair requires replacing the existing seal design with:

(I) a dual mechanical seal system that includes a barrier fluid system;

(II) a system that is designed with no externally actuated shaft penetrating the housing; or

(III) a closed-vent system and control device that meets the requirements of §115.783 of this title (relating to Equipment Standards); and

(ii) repair is completed as soon as practicable, but not later than six months after the leak was detected.

(2) For valves that are not pressure relief valves or automatic control valves, repair may only be delayed beyond the period designated in subsection (b) of this section if:

(A) repair or replacement of these valves occurs at the next scheduled process unit shutdown; and

(i) the owner or operator has undertaken "extraordinary efforts" to repair the leaking valve. 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 14 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 15 days of the first extraordinary effort attempt. 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; or

(ii) 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 that demonstrates that there is a safety, mechanical, or major environmental concern posed by repairing the leak by using "extraordinary efforts" and emissions from

the leaking valves are included in the calculation of total daily mass emissions required by paragraph (1)(B)(i)(IV) of this subsection; or

(B) the valve is isolated from the process and does not remain in HRVOC service.

§115.783. Equipment Standards.

The following equipment standards 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 emissions are vented to a closed-vent system, control device, or recovery device used to comply with the provisions of this chapter, the system or control device is subject to the requirements of Division 1 of this subchapter (relating to Vent Gas Control).

(3) 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 volatile organic compounds 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-volatile organic compounds 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 the United States Environmental Protection Agency in cases where specified criteria for determining equivalency have not been clearly identified in this section.

(4) The following equipment standards shall apply to process drains.

(A) If water seal controls, as defined in §115.140 of this title (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, that 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.

(5) No valves shall be installed or operated at the end of a pipe or line containing highly-reactive volatile organic compounds 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.

§115.786. Recordkeeping Requirements.

(a) If using a flow indicator to comply with §115.783(1)(A) of this title (relating to Equipment Standards), the owner or operator shall:

(1) maintain hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during the hour; and

(2) record all periods when:

(A) the vent stream is diverted from the control stream; or

(B) the flow indicator is not operating.

(b) If securing the bypass line valve in the closed position to comply with §115.783(1)(B) of this title, the owner or operator shall:

(1) maintain a record of the dates that the monthly visual inspection of the seal or closure mechanism has been performed;

(2) record the date and time of all periods when:

(A) the seal mechanism is broken;

(B) the bypass line valve position has changed; or

(C) the key for a lock-and-key type lock has been checked out; and

(3) maintain a record of each time the bypass line valve was opened, including:

(A) the date and time the valve was opened;

(B) the date and time the valve was closed;

(C) the reason(s) the valve was opened;

(D) the estimated flow rate through the valve; and

(E) the resulting emissions, including the basis for the emissions estimate.

(c) Records of all non-repairable components subject to §115.782(c) of this title (relating to Procedures and Schedule for Leak Repair and Follow-up) must be maintained. Reports must be submitted by January 31st for the previous July 1 through December 31 and July 31st for the previous January 1 through June 30 of each year to the Houston regional office and any local air pollution control agency having jurisdiction. The report shall contain:

(1) the component identification code;

(2) the component type;

(3) the leak concentration measurement and date;

(4) the date of the last scheduled process unit shutdown; and

(5) the total number of non-repairable components awaiting repair or replacement.

(d) The owner or operator shall maintain records in accordance with §115.356 of this title (relating to Monitoring and Recordkeeping Requirements), including records identifying, by one or more of the methods specified in §115.781(a)(1) - (6) of this title (relating to General Monitoring and Inspection Requirements), and justifying each exemption claimed exempt under §115.787 of this title (relating to Exemptions). The following additional requirements also apply:

(1) the calculation showing the estimated volatile organic compound (VOC) emission rates of the component as required by §115.782(c)(1)(B)(i)(II) of this title if extraordinary efforts are not going to be initiated; and

(2) records for each process unit with leaking components, updated within five business days after a leaking component is determined to require a process unit shutdown to repair and where extraordinary efforts to repair the component will not be pursued, including the following:

(A) the date, calculations, and estimated daily VOC emissions as required by §115.782(c)(1)(B)(i)(III) of this title;

(B) the date, calculations, and comparison of daily VOC emissions as required by §115.782(c)(1)(B)(i)(IV) and (ii) of this title; and

(C) the date of each process unit shutdown required due to VOC emissions of leaking components exceeding the expected VOC emissions from the shutdown.

(e) The owner or operator shall maintain a record of the results of all monitoring and inspections conducted in accordance with §115.781 of this title.

(f) The owner or operator shall maintain all records for at least five years and make them available for review upon request by authorized representatives of the executive director, United States Environmental Protection Agency, or local air pollution control agencies with jurisdiction.

§115.787. Exemptions.

(a) Components that contact a process fluid containing 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(e) and (f) of this title (relating to Recordkeeping Requirements).

(b) The following are exempt from the shaft sealing system requirements of §115.783(3) 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) any site as defined in §122.10 of this title (relating to General Definitions) with less than 250 components in volatile organic compound (VOC) service;

(5) components that are insulated, making them inaccessible to monitoring with a hydrocarbon gas analyzer;

(6) sampling connection systems, as defined in 40 Code of Federal Regulations (CFR) §63.161 (January 17, 1997), that meet the requirements of 40 CFR §63.166(a) and (b) (June 20, 1996); and

(7) instrumentation systems, as defined in 40 CFR §63.161 (January 17, 1997), that meet the requirements of 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 an upstream rupture disk is exempt from the requirements of §115.781(b)(8) of this title, provided that the pressure relief valve complies with §115.725(c) of this title (relating to Monitoring and Testing Requirements). The rupture disk must replaced as soon as practicable, but no later than 30 calendar days after a failure is detected.

(f) The following valves are exempt from the requirements of §115.783(5) of this title:

(1) pressure relief valves;

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

(3) open-ended valves or lines containing materials that 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.

(g) Any site as defined in §122.10 of this title with less than 100 components in highly-reactive volatile organic compound service is exempt from §115.788 of this title (relating to Audit Provisions).

§115.788. Audit Provisions.

(a) At least once every calendar year, the owner or operator of a site as defined in §122.10 of this title (relating to General Definitions) that is subject to the highly-reactive volatile organic compound (HRVOC) fugitive monitoring requirements of this division shall retain the services of an independent third-party organization to conduct an audit of the process units subject to HRVOC monitoring in this division. The field survey conducted as part of the audit must be based on a random sampling of the affected valves at the site. The random sample must be such that each valve has an equal chance of being selected from the total number of valves being sampled. The valves to be considered in this random sampling are all of the valves at the site in HRVOC service that are not exempted from quarterly monitoring by §115.787 of this title (relating to Exemptions) and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists. The independent third-party organization shall:

(1) verify that all affected valves are properly tagged in accordance with §115.782(a) of this title (relating to Procedures and Schedule for Leak Repair and Follow-up).

(2) perform a field survey to determine the representative percentage of leaking valves determined from the random sampling of the affected units at the site as follows.

(A) The field survey must begin after the owner or operator's contracted or usual monitoring service has completed monitoring the valves for that monitoring period. The field survey must be completed by the end of the next monitoring period.

(B) The following table must be used to determine the number of valves required to be monitored in the field survey. The total population valve count is all of the valves in HRVOC service that are not exempted from quarterly monitoring by §115.787 of this title and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists based on the average of the previous four quarters of monitoring. The company claimed leaker rate is the number of leaking valves found in the total population valve count based on the previous four quarters of monitoring divided by the total population valve count.

Figure: 30 TAC §115.788(a)(2)(B)

Table 1: Minimum Number of Valves to Sample based on Total Valve Population Count and Company Determined Leaker Rate

Note: Values based on a hypergeometric distribution, alpha=0.05, beta=0.20
Null Hypothesis = company claim leaker rate is correct
Alternate Hypothesis = greater than or equal to company claimed leaker rate plus 2%

Total Valve Population Count	Company Claimed Leaker Rate (number of leaking valves/total population valve count)										
	0.000 up to 0.005	0.006 up to 0.010	0.011 up to 0.015	0.016 up to 0.020	0.021 up to 0.025	0.026 up to 0.030	0.031 up to 0.035	0.036 up to 0.040	0.041 up to 0.045	0.046 up to 0.050	0.051 or greater
100 to 150	87	101	110	110	116	120	124	124	127	129	131
151 to 300	139	159	165	173	193	200	213	218	226	233	236
301 to 400	152	167	183	204	228	265	278	284	290	296	305
401 to 500	155	172	201	234	250	278	280	295	300	312	328
501 to 600	158	207	220	263	281	295	343	349	354	359	362
601 to 700	159	211	238	266	303	319	343	353	370	391	402
701 to 800	161	223	253	268	310	362	386	389	392	408	422
801 to 900	162	234	272	297	331	385	385	392	422	439	462
901 to 1,000	163	245	278	298	337	387	391	411	443	456	481
1,001 to 1,500	165	254	280	330	386	414	451	486	526	551	567
1,501 to 2,000	167	256	316	359	392	460	495	525	565	599	629
2,001 to 2,500	214	258	316	361	416	462	515	562	598	613	671
2,501 to 3,000	216	258	316	390	443	485	557	581	634	660	703
3,001 to 6,000	218	260	320	393	471	532	600	639	704	742	806
6,001 to 10,000	219	261	354	422	472	555	622	676	738	790	850
10,001 to 25,000	219	262	355	423	498	557	643	696	773	823	894

25,001 to 100,000	220	262	356	424	499	579	644	715	790	854	924
100,001 or greater	220	301	356	424	499	579	644	715	791	855	924

(C) The following alternatives may be used in lieu of subparagraph (B) of this paragraph to determine the number of valves required to be monitored in the field survey. The required sample size must be calculated using a hypergeometric distribution that characterizes sampling from a given finite population of valves without replacement and reported leaker rate. Commercially available statistical software programs may be used. The sample size must be determined according to the following requirements:

(i) the total population valve count is all of the valves in HRVOC service that are not exempted from quarterly monitoring by §115.787 of this title and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists based on the average of the previous four quarters of monitoring. The company claimed leaker rate is the number of leaking valves found in the total population valve count based on the previous four quarters of monitoring divided by the total population valve count;

(ii) Type I error rate must be less than or equal to 0.05. A Type I error occurs when the company claimed leaker rate accurately reflects the true proportion of leakers, yet the test falsely indicates that the true percentage of leakers is greater than reported (false positive); and

(iii) Type II error rate must be less than or equal to 0.20, when the minimum difference between the company's claimed leaker rate and the true population leaker rate is at least 2%. A Type II error occurs when the true leaker rate is in fact greater than the reported rate, but the test fails to so indicate (false negative).

(D) The independent third-party organization shall perform the field survey in accordance with Test Method 21 (40 Code of Federal Regulations Part 60, Appendix A);

(3) conduct a review of all data generated by monitoring technicians in the previous quarter. This review must include:

(A) identification of data patterns indicative of failure to properly implement Test Method 21 including, but not limited to, a review of the number of valves monitored per technician and the time between monitoring events to validate that the sampling procedures accurately reflect the requirements of Test Method 21 including identification of specific instances in which a monitoring technician recorded data faster than was physically possible due to the hydrocarbon gas analyzer response time and/or the time required for the technician to move to the next component; and

(B) a review of records to verify that the calibration requirements of Test Method 21 have been properly implemented.;

(b) For purposes of this section, an independent third-party organization is an organization in which the owner or operator (including any subsidiary, parent company, sister company, or joint venture) of the petroleum refinery; synthetic organic chemical, polymer, resin, or methyl tert-butyl ether manufacturing process; or natural gas/gasoline processing operation has no ownership or other financial interest. If the owner or operator's routine monitoring is done by a contractor rather than by in-house monitoring, then the independent third-party organization must be a different contractor from that ordinarily used for those services.

(c) The owner or operator shall submit a verbal notification to the Houston regional office and any local air pollution control agency having jurisdiction that provides the date that the independent third-party organization is scheduled to begin the audit. The notification must be submitted at least 30 days prior to the start date of the audit.

(d) The owner or operator shall furnish the Houston regional office and any local air pollution control agency having jurisdiction a copy of the results of the audit authored by the independent third-party organization within 30 days after completion of the audit requirements listed in subsection (a) of this section. The report must include:

(1) the number of valves that were not tagged, but should have been tagged in accordance with §115.782(a) of this title;

(2) the number of valves monitored during the field survey, the number of leaking valves found during the field survey, the percentage of leaking valves identified by the independent third-party organization during the field survey, and a detailed description of the sampling scheme used to ensure that a random sample of valves was selected so that each valve had an equal chance of being selected from the total number of valves being sampled;

(3) the total number of valves in HRVOC service that are not exempted from quarterly monitoring by §115.787 of this title and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists monitored based on the average of the previous four quarters of monitoring, the total number of leaking valves found at the site by the owner or operator's contracted or usual monitoring service based on the average of the previous four quarters of monitoring, and the percentage of leaking valves based on the average of the previous four quarters of monitoring;

(4) the methodology used to select the field survey sample size. If the alternative provided in subsection (a)(2)(C) of this section was used to determine the number of valves to be sampled in the field survey, documentation must include the actual Type I and Type II error rates associated with the sample size used and a detailed description of the methodology used to calculate the sample size; and

(5) a summary of the independent third-party organization's review of all data generated by monitoring technicians in the previous quarter by the owner or operator's contracted or

usual monitoring service for each of the categories specified in subsection (a)(3)(A) and (B) of this section.

(e) If the results of the independent third-party audit indicate deficiencies in the implementation of Test Method 21, the owner or operator shall submit a corrective action plan with the audit report to the Houston regional office or any local air pollution control agency having jurisdiction.

(f) Authorized representatives of the executive director, United States Environmental Protection Agency, or any local air pollution control agency with jurisdiction may conduct an audit of the owner or operator's leak detection and repair program.

(g) In lieu of complying with subsections (a) - (d) of this section, an owner or operator may request approval from the executive director of an alternative method that demonstrates equivalency with the independent third-party audit, provided that the request:

(1) includes a detailed explanation of how the equivalency will be demonstrated, including the appropriate recordkeeping and reporting requirements that will be implemented that are sufficient to demonstrate compliance with the alternative method; and

(2) demonstrates that it is a replicable procedure and details how the equivalency will be demonstrated.

(h) Upon review of the audit results, the executive director may specify additional corrective actions beyond any potential corrective actions submitted in the documentation required under subsection (e) of this section.

§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 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), must 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) applies 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 requirements in §115.782 of this title (relating to Procedures and Schedule for Leak Repair and Follow-up) and 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 control devices used to comply with the requirements of §115.783(2) of this title must be in compliance in accordance with §115.729 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 as soon as practicable, but no later than December 31, 2005.

(4) Compliance with the recordkeeping required by §115.786 of this title (relating to Recordkeeping Requirements) must be implemented and made available upon request to authorized representatives of the executive director, United States Environmental Protection Agency, or any local air pollution control agency having jurisdiction as soon as practicable, but no later than March 31, 2004.

(5) 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, must begin as soon as practicable, but no later than March 31, 2004.

SUBCHAPTER H: HIGHLY-REACTIVE VOLATILE ORGANIC COMPOUNDS

DIVISION 3: FUGITIVE EMISSIONS

§115.785

STATUTORY AUTHORITY

The repeal is adopted under Texas Water Code, §5.103, concerning Rules, and §5.105, concerning General Policy, that 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, that authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The repeal is also adopted under Texas Health and Safety Code, §382.002, concerning Policy and Purpose, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; and §382.016, concerning Monitoring Requirements – Examination of Records, that authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants.

§115.785. Testing Requirements.