

The Texas Natural Resource Conservation Commission (TNRCC or commission) adopts amendments to §§115.140, 115.142-115.149, concerning Industrial Wastewater, and new §§115.160 - 115.167 and 115.169, concerning Batch Processes. Adopted with changes to the proposed text as published in the July 16, 1999, issue of the *Texas Register* (24 TexReg 5413) are §§115.140, 115.142, 115.143, 115.147, 115.149, 115.160, 115.162, and 115.164-115.167. Sections 115.144-115.146, 115.148, 115.161, 115.163, and 115.169 are adopted without changes and will not be republished.

The commission adopts these revisions to Chapter 115, concerning Control of Air Pollution from Volatile Organic Compounds, and to the state implementation plan (SIP) in order to conform with the United States Environmental Protection Agency's (EPA's) revised ozone transport policy and allow the Beaumont/Port Arthur (BPA) ozone nonattainment area's attainment date to be extended. The revisions to the existing Chapter 115 industrial wastewater rules (IWW) also incorporate a variety of corrections to ensure the implementation of reasonably available control technology (RACT) in the Houston/Galveston (HGA) ozone nonattainment area. Finally, in an effort to improve implementation of the existing Chapter 115 IWW rules which apply in the Dallas/Fort Worth, El Paso, and HGA ozone nonattainment areas, the commission has clarified a variety of requirements and rule references.

BACKGROUND

Under §183 of the 1990 Amendments to the Federal Clean Air Act (FCAA), the EPA is required to issue Control Techniques Guideline (CTG) guidance documents for the purpose of assisting states in developing RACT controls for sources of volatile organic compound (VOC) emissions. In turn, each state is required to submit a revision to its SIP which implements RACT regulations for VOC sources in

moderate or above ozone nonattainment areas. Specifically, §182(b)(2) of the FCAA requires states to submit RACT regulations for VOC sources that are covered by a CTG issued after November 15, 1990 (the enactment date of the 1990 FCAA), but prior to the time of attainment. Limits in state rules must be at least as stringent as the CTG limits or otherwise must be determined to meet RACT.

Each CTG contains a “presumptive norm” for RACT for a specific source category, based on the EPA's evaluation of the capabilities and problems general to that category. Where applicable, the EPA recommends that states adopt requirements consistent with the presumptive norm. However, the presumptive norm is only a recommendation. States may choose to develop their own RACT requirements on a case-by-case basis, considering the emission reductions needed to obtain achievement of the national ambient air quality standards and the economic and technical circumstances of the individual source.

Source categories for which the EPA was to issue CTGs under §182(b)(2)(A) include IWW and batch processes. Instead of issuing CTGs for these source categories, the EPA issued guidance documents known as Alternative Control Techniques (ACT) documents. The ACTs do not establish the presumptive norm for RACT but merely contain information on emissions, controls, control options, and costs. The EPA itself has consistently noted in the ACTs that each ACT "presents options only, and does not contain a recommendation on RACT." Nevertheless, §182(b)(2)(C) of the 1990 FCAA Amendments still requires states to insure that RACT is in place for all major VOC sources in moderate and above ozone nonattainment areas.

The EPA's "5% rule" provides a mechanism for states to justify exemptions or cutpoints which are more lenient than the EPA's RACT baseline. It is applied by determining the total emissions allowed by the EPA's RACT baseline (including exemptions) and comparing this to the emissions allowed (including exemptions) by a state regulation. If the difference is less than 5.0%, the EPA considers that there is no substantive difference between the EPA and state requirements.

Historically, the commission's position has been that the existing general vent gas rule in Chapter 115, Subchapter B: Division 2 is adequate to ensure RACT for batch processes; however, this is difficult to demonstrate because the necessary information for such a demonstration is not in the emissions inventory (EI). Staff worked with BPA industries regarding a possible demonstration of equivalency between the existing general vent gas rule and the batch processes ACT using the EPA's 5% rule, but was unable to assemble the information necessary to demonstrate to the EPA's satisfaction that existing rules represent RACT for batch processes in BPA. Consequently, it is necessary to adopt and implement Chapter 115 rules for batch processes in BPA.

The EPA's draft IWW CTG, *Control of Volatile Organic Compound Emissions from Industrial Wastewater*, was modeled after the then-proposed 40 Code of Federal Regulations (CFR) 63, Subpart G (Hazardous Organic National Emission Standards for Hazardous Air Pollutants (NESHAP) for synthetic organic chemical manufacturing industry (SOCMI) facilities (better known as "SOCMI Hazardous Organic NESHAP (HON)," or simply the "HON"). All major sources of IWW emissions in BPA are at SOCMI facilities or petroleum refineries. Four refineries, which account for 90% of the IWW emissions in BPA, are subject to 40 CFR 61, Subpart FF (Benzene NESHAP), and 40 CFR 63, Subpart

CC (Petroleum Refinery maximum available control technology (MACT)). Two SOCOMI facilities (both owned by the same company) must comply with the HON. Initially, this company was expected to submit HON implementation plans because it planned to use emissions averaging for compliance. However, the company instead decided not to opt into averaging, and has not had to submit a Title V application yet. As a result, it was impossible to evaluate their status without more information. Staff worked with this company regarding a possible demonstration of equivalency using the EPA's 5% rule, but was unable to assemble the information necessary to demonstrate to the EPA's satisfaction that existing rules represent RACT for IWW in BPA. Consequently, it is necessary to adopt and implement Chapter 115 rules for IWW in BPA.

The BPA ozone nonattainment area is currently designated moderate under the FCAA and, thus, was required to attain the one-hour ozone standard by November 15, 1996. BPA did not attain the standard by that date, and also will not attain the standard by November 15, 1999, the attainment date for serious areas. The EPA is authorized to redesignate an area to the next higher classification ("bump up") if it fails to attain by the required date.

However, in determining the appropriate attainment date for an area, the EPA may consider the effect of transport of ozone or its precursors from an upwind area. The HGA ozone nonattainment area is upwind of BPA and influences BPA's air quality to such an extent that without reductions from HGA, BPA may not be able to attain the standard solely from its own local reductions. The EPA's revised transport policy allows a downwind area such as BPA to have its attainment date extended to no later than the attainment date for the upwind area, without being bumped up.

On April 16, 1999, the EPA published notice in the *Federal Register* (64 FR 18864) that in order for BPA to take advantage of this policy, the commission must submit to the EPA an acceptable SIP revision by November 15, 1999, which includes implementation of VOC RACT in BPA for IWW and batch processes. As noted earlier, staff and a group of BPA industries have had numerous discussions regarding this required SIP element. Because staff and these BPA industries were unable to assemble the information necessary to demonstrate to the EPA's satisfaction that existing rules represent RACT for IWW and batch processes in BPA, it is necessary to adopt these Chapter 115 rules to ensure that all required elements of the BPA Transport SIP can be submitted to the EPA by the November 15, 1999 deadline.

Beginning with the initial proposal of the Chapter 115 IWW rules and continuing for the past five years, the EPA has stated consistently and repeatedly, both verbally and in writing, that these rules are deficient in implementing RACT for IWW in HGA and therefore, are unapprovable. The EPA has made it clear that failure to correct the deficiencies will result in undesirable consequences for HGA, as specified in the FCAA.

EXPLANATION OF ADOPTED RULES

The rule changes extend the existing Chapter 115 IWW requirements (§§115.140 and 115.142 - 115.149) to the three-county BPA ozone nonattainment area. These counties are: Hardin, Jefferson, and Orange. Concurrently, the commission is adopting revisions to the existing IWW rules to ensure the implementation of RACT in the HGA ozone nonattainment area in order to satisfy FCAA requirements and enable these rules to be federally approvable. The commission is also adopting

revisions which reorganize and clarify the IWW rules. These clarifying/reorganizing revisions include, where possible, consolidation or elimination of redundant language or requirements, the use of the active (rather than passive) voice, and relocation of rule language to more logical locations. In general, the commission's goal is to make the rules easier to read and more explicit concerning which requirements apply.

In addition, rule changes add new Chapter 115 batch process requirements (§§115.160 - 115.167 and 115.169) to the three-county BPA ozone nonattainment area. The rule language is based upon the EPA's *Control of Volatile Organic Compound Emissions from Batch Processes - Alternative Control Techniques Information Document* (EPA-453/R-94-020, February 1994).

The changes to §115.140, concerning Definitions, revise the title of this section to “Industrial Wastewater Definitions,” revise the term “undesigned head” to “division” in response to revised *Texas Register* rules (23 TexReg 1289, February 13, 1998), and add definitions of "water seal controls" and "wet weather retention basin." For the convenience of the reader, the revisions to §115.140 also add a reference to other sections where definitions of the terms used in the Chapter 115 IWW rules may be found.

The changes to §115.142, concerning Control Requirements, extend the IWW control requirements to BPA; revise the term “undesigned head” to “division” in response to revised *Texas Register* rules (23 TexReg 1289, February 13, 1998); clarify that floating roofs are not required, but simply must meet certain requirements for each tank equipped with a floating roof; clarify that automatic bleeder vents are

also called vacuum breaker vents; clarify that emergency roof drains refer to drains that empty into the stored liquid; clarify that the secondary seal gap limitation applies to external floating roof tanks; update a reference to §115.140 due to a title change; and revise a reference to TNRCC and the executive director for consistency with the commission's style guidelines.

In separate rulemaking (24 TexReg 5488, July 16, 1999), the commission added a definition of vapor control system to §115.10 which is identical to the existing definition of vapor recovery system. This will facilitate a transition in the Chapter 115 rules to this term from the misleading term "vapor recovery system," which is defined to include both recovery and combustion control devices. Consequently, the changes to §115.142 change a reference from "vapor recovery system" to "vapor control system" for clarification.

The revisions to §115.142 also implement several requirements in order to satisfy the EPA's RACT requirements in BPA and HGA. First, the revisions specify that in BPA and HGA, the control requirements apply from the point of generation of an affected VOC wastewater stream until the affected VOC wastewater stream is either returned to a process unit, or is treated to reduce the VOC content of the wastewater stream by 90% by weight and also reduce the VOC content of the same VOC wastewater stream to less than 1,000 parts per million by weight (ppmw). Second, the revisions require that a junction box with a pump be controlled with either a vapor control system which maintains a minimum control efficiency of 90%, or with a closed system which prevents the flow of VOC vapors from the vent during normal operation. Most junction boxes do not have pumps, and most of the ones which do are already controlled under the HON rules. Control of junction boxes equipped with pumps,

but not controlled under the HON rules, would be achieved most economically by piping to an existing control device. For junction boxes that are filled and emptied by gravity (i.e., there is no pump) or are operated at essentially a constant liquid level, the revisions require water seals and a vent pipe at least 36 inches long and no more than 4.0 inches in diameter. Third, the revisions require the VOC content of wastewater in biotreatment units to be reduced by 90%.

In addition, the changes to §115.142 revise the “once-in, always-in” (OIAI) rule (§115.142(3)(A)) to include a reference to Chapter 106, as well as Chapter 116, because exemptions from permitting were relocated from Chapter 116 to Chapter 106, effective March 14, 1997. The updating of this reference will provide continued flexibility to the regulated community. The revisions also correct the terms “subsection” and “section” to “division,” and update the term “standard exemption” to “exemption from permitting.”

The changes to §115.143, concerning Alternate Control Requirements, revise the term “undesignated head” to “division” in response to revised *Texas Register* rules (23 TexReg 1289, February 13, 1998); and relocate the 90% overall control option from the existing §115.147(5) to the new §115.143(b), where this option more logically belongs. The changes to §115.143 also add a new subsection (c) which provides an option for companies to comply with the HON for all VOC, rather than for hazardous air pollutant (HAP) only, in lieu of meeting the requirements of this division.

The changes to §115.144, concerning Inspection and Monitoring Requirements, extend the inspection and monitoring requirements to BPA; correct the term “subsection” to “section;” correct the term

"metallic type shoe seal" to "mechanical shoe seal" for consistency with this definition in §101.1; add a requirement for monitoring and recording of appropriate operating parameters for types of vapor control systems not specifically listed in §115.144(3); and add specific monitoring requirements for flares and vapor combustors. Specifically, the changes to §115.144 add a requirement that flares must meet the requirements of 40 CFR 60.18(b) and Chapter 111. The new §115.144(3)(G) specifies exhaust gas temperature monitoring of vapor combustors, with an option that the owner/operator of an existing vapor combustor may consider it to be a flare and monitor the unit under the flare requirements specified in 40 CFR 60.18(b) and Chapter 111.

These revisions are necessary to ensure that control devices are functioning properly and to clarify how vapor combustors are to be monitored. Based upon information from the Air Permits Division, most existing flares meet the design and operating criteria of 40 CFR 60.18(b). The commission solicited information regarding flares which are used to control emissions from IWW, but do not meet the requirements of 40 CFR 60.18(b). However, none were identified.

The changes to §115.145, concerning Approved Test Methods, extend the existing test methods to BPA; reorganize the section by grouping related test methods together; add test methods for determination of total suspended solids (TSS); add a procedure for determination of biotreatment unit efficiency; and add a new paragraph (10), which authorizes the use of test methods other than those specifically listed in §115.145, provided that any new test method is validated using the procedures in 40 CFR 63, Appendix A, Test Method 301, with the executive director acting as the administrator. This revision is necessary because in some specific unique situations the listed test methods may be

inappropriate. The new paragraph (10) increases flexibility by allowing the use of additional test methods which may be more cost-effective and more appropriate in certain unique situations.

Because it is not reasonably possible to measure the mass emission rate from an elevated flare (an elevated flare's flame is open to the atmosphere, such that the emissions cannot be routed through a stack), the test methods for flow rate and VOC concentration in §115.145(1)-(2) do not apply to flares. In order to specify performance requirements for flares, the new §115.145(3) establishes the test requirements of 40 CFR 60.18(b). Because flares cannot be stack-tested, the new §115.145(3) also specifies that compliance with the requirements of 40 CFR 60.18(b) represents a 98% control efficiency.

The changes to §115.146, concerning Recordkeeping Requirements, extend the recordkeeping requirements to BPA; and delete the existing §115.146(4), which concerns records associated with control device maintenance activities, because maintenance activities are already addressed in §101.7, Maintenance, Start-up and Shutdown Reporting, Recordkeeping, and Operational Requirements. The changes to §115.146 also revise §115.146(1) to include a reference to §115.143 due to the relocation of the 90% overall control option described in the following paragraph.

The changes to §115.147, concerning Exemptions, extend the availability of exemptions to BPA; revise the term “undesignated head” to “division” in response to revised *Texas Register* rules (23 TexReg 1289, February 13, 1998); relocate the 90% overall control option in the existing §115.147(5) to the proposed §115.143(b); add an exemption for wet weather retention basins; add an exemption for

petroleum refineries in BPA; and add an exemption from the new substantive requirements for petroleum refineries in HGA.

The changes to §115.148, concerning Determination of Wastewater Characteristics, revise the term “undesigned head” to “division” in response to revised *Texas Register* rules (23 TexReg 1289, February 13, 1998).

The changes to §115.149, concerning Counties and Compliance Schedules, specify a December 31, 2002 compliance date for the newly affected counties (Jefferson, Hardin, and Orange); specify a December 31, 2002 compliance date for biotreatment units and for control of junction boxes equipped with pumps in the HGA ozone nonattainment area; and delete language which is obsolete due to the passing of a November 15, 1996 compliance date.

The new §115.160, concerning Batch Process Definitions, adds definitions for aggregated, annual mass emissions total, average flow rate, batch, batch cycle, batch process, batch process train, emissions before control, primary fuel, process vent, RACT, recovery device, semi-continuous, unit operations, and volatility (including low, moderate, and high volatility).

The new §115.161, concerning Applicability, specifies that the batch process requirements of §§115.162 - 115.167 apply to vent gas streams at batch process operations in the BPA area under the Standard Industrial Classification (SIC) codes 2821 (plastic resins and materials), 2833 (medicinals and botanicals), 2834 (pharmaceutical preparations), 2861 (gum and wood chemicals), 2865 (cyclic crudes

and intermediates), 2869 (industrial organic chemicals, not elsewhere classified), and 2879 (agricultural chemicals, not elsewhere classified). The new §115.161 also specifies that the existing requirements of Subchapter B, Division 2, concerning Vent Gas Control, will continue to apply to batch process operations which are exempt from §§115.162 - 115.166 because they are located at an account which has total VOC emissions (determined before control but after the last recovery device) of less than 100 tons per year.

The new §115.162, concerning Control Requirements, establishes the applicable RACT equations for low, moderate, and high volatility materials; establishes a successive ranking scheme which determines which sources must be controlled and which are exempt; and specifies that the EPA's OIAI requirement applies. OIAI is an EPA concept which means that once emissions from a source exceed the applicability cutoff for a particular VOC regulation in the SIP, that source is always subject to the control requirements of the regulation.

The new §115.163, concerning Alternate Control Requirements, establishes the availability of alternate means of control.

The new §115.164, concerning Determination of Emissions and Flow Rates, establishes the procedures for determining the uncontrolled annual emission total and the average flow rate for process vents.

The new §115.165, concerning Approved Test Methods and Testing Requirements, establishes the approved test methods and testing requirements for determining compliance with the control requirements and allows minor modifications to the test methods if approved by the executive director.

Because it is not reasonably possible to measure the mass emission rate from an elevated flare (an elevated flare's flame is open to the atmosphere, such that the emissions cannot be routed through a stack), the test methods for flow rate and VOC concentration do not apply to flares. In order to specify performance requirements for flares, the new §115.165 establishes the test requirements of 40 CFR 60.18(b). Because flares cannot be stack-tested, the new §115.165 also specifies that compliance with the requirements of 40 CFR 60.18(b) represents a 98% control efficiency. Based upon information from the Air Permits Division, most existing flares meet the design and operating criteria of 40 CFR 60.18(b). The commission solicited information regarding flares which are used to control emissions from batch process operations, but do not meet the requirements of 40 CFR 60.18(b). However, none were identified.

The new §115.165 also includes authorization for the use of test methods other than those specifically listed in §115.165, provided that any new test method is validated using the procedures in 40 CFR 63, Appendix A, Test Method 301, with the executive director acting as the administrator. This revision is necessary because in some specific unique situations the listed test methods may be inappropriate. The new rule increases flexibility by allowing the use of additional test methods which may be more cost-effective and more appropriate in certain unique situations.

The new §115.166, concerning Recordkeeping Requirements, establishes requirements for continuous monitoring and recording of control device operating parameters; establishes recordkeeping requirements for the annual mass emission total, average flow rate, and associated documentation for each process vent; and specifies the control device operating parameters to be measured and recorded during performance testing.

The new §115.167, concerning Exemptions, establishes exemptions for batch process operations which are located at an account which has total VOC emissions (determined before control but after the last recovery device) of less than 100 tons per year; single unit operations that have a mass annual emissions of 500 pounds per year or less; and combined vents from a batch process train which have a mass annual emissions total below specified levels which vary depending on the volatility of the VOCs. The new §115.167 also specifies that the existing requirements of Subchapter B, Division 2, concerning Vent Gas Control, will continue to apply to batch process operations which qualify for exemption because they are located at an account which has total VOC emissions (determined before control but after the last recovery device) of less than 100 tons per year.

The new §115.169, concerning Counties and Compliance Schedules, specifies the affected counties (Jefferson, Hardin, and Orange) and a December 31, 2001 compliance date for the new requirements. The new §115.169 also specifies that batch process operations which are subject to the requirements of §§115.162 - 115.166 must continue to comply with the existing requirements of Subchapter B, Division 2, concerning Vent Gas Control, until these batch process operations are in compliance with the new requirements.

FINAL REGULATORY IMPACT ANALYSIS

The commission has reviewed the rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and has determined that the rulemaking is not subject to §2001.0225 because, although it meets the definition of a “major environmental rule” as defined in the Texas Government Code, it does not meet any of the four applicability requirements listed in §2001.0225(a). Specifically, under §182(b)(2)(C) of the 1990 FCAA Amendments, states are required to ensure that RACT is in place for all major VOC sources in moderate and above ozone nonattainment areas. The purpose of the rulemaking is to ensure that RACT is in place for all major VOC sources in the BPA and HGA ozone nonattainment areas. This rulemaking is not an express requirement of state law, but was developed specifically in order to meet the RACT requirements established under federal law. This will also conform with the EPA's revised ozone transport policy and allow BPA's attainment date to be extended, and will also enable the IWW rules for HGA to be federally approvable. There is no contract or delegation agreement that covers the topic that is the subject of this rulemaking. Therefore, this rulemaking does not involve an agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program, and was not developed solely under the general powers of the agency. No comments were received during the comment period regarding the draft regulatory impact analysis.

TAKINGS IMPACT ASSESSMENT

The commission has prepared a Takings Impact Assessment for these rules pursuant to Texas Government Code, §2007.043. The following is a summary of that assessment. The specific purpose of the rulemaking is to ensure that RACT is in place for all major VOC sources in the BPA and HGA

ozone nonattainment areas. The purpose of the rulemaking is to conform with the EPA's revised ozone transport policy and allow the BPA ozone nonattainment area's attainment date to be extended, and to enable the IWW rules for HGA to be federally approvable. This rulemaking action may require the installation of control systems at industrial wastewater and batch process operations in BPA and possibly also in HGA in some cases. Promulgation and enforcement of the rule amendments may possibly burden private property because in some cases the permanent installation of control systems and associated piping is necessary in order to comply with the rules. Although the rule revisions do not directly prevent a nuisance, prevent an immediate threat to life or property, or prevent a real and substantial threat to public health and safety, the rule revisions fulfill a federal mandate under §182(b)(2) of the 1990 Amendments to the FCAA. Specifically, §182(b)(2)(C) of the 1990 FCAA Amendments requires states to ensure that RACT is in place for all major VOC sources in moderate and above ozone nonattainment areas. Consequently, the following exemption applies to these rules: an action reasonably taken to fulfill an obligation mandated by federal law.

COASTAL MANAGEMENT PROGRAM CONSISTENCY REVIEW

The commission has determined that this rulemaking action is subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act of 1991, as amended (Texas Natural Resources Code, §§33.201 et seq.), the rules of the Coastal Coordination Council (31 TAC Chapters 501-506), and the commission's rules in 30 TAC Chapter 281, Subchapter B, concerning Consistency with the CMP. As required by 31 TAC §505.11(b)(2) and 30 TAC §281.45(a)(3) relating to actions and rules subject to the CMP, agency rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission has reviewed this action for consistency

and has determined that this rulemaking is consistent with the applicable CMP goals and policies. The primary CMP policy applicable to this rulemaking is the policy that commission rules comply with regulations at 40 CFR, to protect and enhance air quality in the coastal area. No new sources of air contaminants will be authorized by the rule revisions, and the revisions may result in a reduction in VOC emissions due to the new control requirements on IWW and batch process vent gas streams. Therefore, in compliance with 31 TAC §505.22(e), the commission affirms that this rulemaking is consistent with CMP goals and policies. No comments were received during the comment period regarding the consistency of the proposed rules with the CMP.

HEARING AND COMMENTERS

A public hearing on this proposal was held in Beaumont on August 9, 1999, at 5:30 p.m. in the John Gray Institute, located at 855 East Florida Avenue. The comment period initially was to close on August 16, 1999, but was extended until August 23, 1999.

No commenters submitted oral testimony on the proposal. Seven commenters submitted written testimony on the proposal. BP Amoco Chemicals (BP), the EPA, and Huntsman Corporation (Huntsman) generally supported the proposed revisions but suggested changes or clarifications. Baker & Botts, LLP (Baker), Clark Refining and Marketing, Inc. (Clark), Exxon Company U.S.A. (Exxon), and Texas Chemical Council (TCC) opposed the proposed revisions.

ANALYSIS OF TESTIMONY

The EPA expressed concern that information submitted by industry during the comment period in support of a demonstration that existing rules represent RACT for batch processes and IWW in BPA would not have been subject to public comment.

As noted earlier, industry did not submit the information necessary to demonstrate to the EPA's satisfaction that existing rules represent RACT for batch processes and IWW in BPA. Because the commission is adopting Chapter 115 rules for batch processes and IWW in BPA, the EPA's concerns regarding the RACT demonstration are moot.

The EPA stated that the IWW rules will be federally approvable as RACT if adopted as proposed.

The commission notes that the adoption and submittal of the IWW RACT rules will fulfill one element of the EPA's revised ozone transport policy and, in conjunction with the commission's completion of other required elements, will allow BPA's attainment date to be extended. The adoption and submittal of the IWW rule revisions will also allow these rules to be approvable as RACT in HGA.

Baker, Exxon, and TCC objected to the proposed substantive revisions to the existing IWW rules in HGA. Exxon and TCC stated that the IWW rules were originally written to comply with CTG/ACT presumptive RACT requirements. Exxon commented that there is no federal "presumptive norm" for what constitutes RACT because the EPA never issued an IWW CTG. Exxon also commented that it is

not clear what the RACT baseline is or why the current rule is deficient or does not meet the EPA's "5% rule." TCC stated further that since the EPA has not challenged any portion of the rules, there is no reason to make any substantive changes except to bring BPA into the rules. Baker and Exxon noted that the current rules represent the results of a negotiated rulemaking. Exxon noted that the current IWW rule in HGA had a November 15, 1996 compliance date and commented that it is unreasonable for the commission to now revise the control requirements and require compliance in little more than one year without a demonstration that the incremental reductions are cost-effective and necessary for ozone attainment. TCC also did not believe that a cost benefit analysis was provided for the proposed substantive revisions to the existing IWW rules in HGA, while Exxon stated that the cost benefit analysis provided for the proposed substantive revisions to the existing IWW rules in HGA was extremely low for the incremental reductions in HGA.

The commenters are correct that the current Chapter 115 IWW rules for HGA represent the results of a negotiated rulemaking in 1993-1994. This rulemaking was an attempt to comply with the FCAA requirements for RACT. The commission notes that satisfaction of the FCAA requirement for implementation of RACT is a necessary element for approvability of an attainment SIP and that this element is separate from a demonstration that the associated emission reductions are necessary for attainment of the ozone standard. In response to Exxon's comment that there is no federal "presumptive norm" for what constitutes RACT, it should be noted that the EPA document *Revisions to Impacts of the Draft Industrial Wastewater Control Techniques Guideline* (1994) states: "The Agency's intent has been and continues to be that the wastewater collection and treatment control philosophy will be consistent between the IWW CTG/ACT and

the HON." This document further states: "Based on the similarities between the CTG/ACT and the HON, the HON wastewater provisions are recommended as the model wastewater rule." It should also be noted that beginning with the initial proposal of the IWW rules and continuing for the past five years, the EPA has stated consistently and repeatedly, both verbally and in writing, that the Chapter 115 IWW rules are deficient in implementing RACT for IWW in HGA. For example, the EPA's October 5, 1995 letter advised that one of the deficiencies in the rules is that treatment of an IWW stream is only required until the concentration of the stream is less than 1,000 ppmw. This letter also identified the requirements for junction boxes as deficient because the rule only required a junction box vent to be equipped with a vent pipe at least 36 inches in length and no more than 4.0 inches in diameter. This EPA letter further advised that junction box vents should also be controlled by a control device, or by equipping the junction box with a system to prevent the flow of VOC (for example, a water seal). The EPA has also stated that a test method for biotreatment units is necessary to ensure that each "properly operated biotreatment unit" meets the TSS limit and therefore, is able to demonstrate that it is, in fact, properly operated. However, additional discussions with the EPA resulted in their concurrence that exemption of wet weather retention basins from the Chapter 115 IWW rules will not prevent these rules from being able to meet the FCAA's RACT requirements. Similarly, page 6-3 of the draft IWW CTG states that for refineries the EPA "believes that wastewater streams that contain non-HAP VOC also contain a substantial amount of HAP," such that RACT for IWW at petroleum refineries is adequately addressed by the Refinery MACT. Additional discussions with the EPA confirmed that the EPA agrees that refineries can be exempted from the Chapter 115 IWW rules without jeopardizing federal approvability. Regarding cost estimates, throughout the

development of these rules the commission was presented with a wide range of conflicting data for estimated cost of complying. To minimize the cost to the affected industries, the commission is including only the substantive revisions to the Chapter 115 IWW rules which are necessary to ensure approvability of the BPA and HGA SIPs. In addition, the commission is including exemptions and control options which provide additional flexibility to industry. Regarding Exxon's concerns about the compliance schedule, the commission has revised the compliance schedule throughout the Chapter 115 IWW rules such that all substantive revisions have a December 31, 2002 compliance date. The commission believes that this will allow industry ample time to comply with the new requirements.

TCC commented on §115.140 and stated that there is no definition of wet weather retention basin.

To clarify the meaning of this term, the commission has added a definition of "wet weather retention basin" to §115.140.

Baker, BP, Exxon, and TCC commented on the lead-in paragraph of §115.142, as well as §115.142(3). BP stated that the lead-in paragraph of §115.142 would be clearer if it were revised to read "...shall be controlled in accordance with either paragraph (1) or (2) except for a properly operated biotreatment unit and a wet weather retention basin which shall meet the requirements of paragraph (3)." Baker, Exxon, and TCC opposed control of wet weather retention basins and properly operated biotreatment units, and Exxon and TCC stated that control of these sources was not considered cost-effective during the 1994 development of the existing IWW rules. BP and TCC stated their belief that control of wet

weather retention basins and properly operated biotreatment units in BPA and HGA is not justified in the preamble of the proposal.

The commission has revised the lead-in paragraph of §115.142 for clarity as suggested by BP, but without the reference to wet weather retention basins. As discussed earlier, the commission is adding an exemption for wet weather retention basins (as a new §115.147(5)), but is retaining the requirements for properly operated biotreatment units in BPA and HGA in order to satisfy the FCAA's RACT implementation requirements.

Exxon also commented that under the existing IWW rule, for wastewater streams that are combined prior to treatment (to remove VOC), the amount of VOC that must be removed is based on the individual affected VOC wastewater streams that are in the combined stream, and not on the VOC content of the combined stream. Exxon stated the proposed new requirements for VOC removal from wastewater for properly operated biotreatment units and wet weather retention basins exceeds and is inconsistent with the current rule's requirement in §115.142.

The HON IWW provisions, which the EPA has recommended as the model IWW rule, require a 95% mass removal for biotreatment units. However, the EPA has agreed that a 90% mass removal is acceptable for satisfaction of VOC RACT requirements. Therefore, the commission has revised the lead-in paragraph of §115.142 to indicate that for properly operated biotreatment units, the amount of VOC that must be removed is based on the VOC content of the combined stream.

No comments were received on §115.142(2), concerning the requirements for internal and external floating roofs. However, it has come to the commission's attention that the existing wording indicates that all wastewater components must be equipped with floating roofs. The intent was to specify the requirements for floating roofs in the event that a floating roof is used. The commission has revised §115.142(2) to clarify this.

Exxon expressed concern that §115.142(3)(B) could apply to each biotreatment unit, rather than only to each "properly operated biotreatment unit," as defined in §115.140(5).

The lead-in sentence of §115.142(3) states that the requirements apply to each "properly operated biotreatment unit." Therefore, the requirements of §115.142(3)(B) apply only to biotreatment units which meet the definition of "properly operated biotreatment unit," and not to all biotreatment units. The commission has made no changes in response to the comment.

In addition, BP, Exxon, and TCC suggested deletion of the proposed language for BPA and HGA which would specify that the control requirements apply from the point of generation of an affected VOC wastewater stream until that stream is either returned to a process unit, or is treated to reduce the VOC content of the wastewater stream by 90% by weight and also reduce the VOC content of the same VOC wastewater stream to less than 1,000 ppmw. BP, Exxon, and TCC stated that this proposed language would increase the stringency of the rule because there would be two overlapping requirements: 90% control, and reduction to less than 1,000 ppmw. Exxon stated that control by 90% by weight and also to less than 1,000 ppmw in BPA and HGA is more stringent than the benzene

removal requirements of Benzene NESHAP and expressed its belief that this requirement is not justified in the preamble of the proposal.

The commenters are correct that the proposed revisions would make the existing rule for HGA more stringent. As noted earlier, the EPA has repeatedly stated that the Chapter 115 IWW rules are deficient in implementing RACT for IWW. In particular, the EPA has stated that one of the deficiencies in the rules is that treatment of an IWW stream is only required until the concentration of the stream is less than 1,000 ppmw. The EPA has made it clear that failure to correct this rule language will result in an unapprovable rule, with associated undesirable consequences for BPA and HGA. The Benzene NESHAP was one of many rules and documents reviewed during the initial rule development, but the EPA has recommended the HON wastewater provisions as the model wastewater rule, and not the Benzene NESHAP. The commission believes that the reason for revising the IWW rules for HGA has been adequately explained earlier. Additional discussions with the EPA resulted in their agreement that compliance with the HON for all VOC, rather than for HAP only, is adequate to demonstrate implementation of RACT. In order to provide flexibility but still ensure a federally-approvable rule, the commission has added a new §115.143(c) to the alternate control requirements section. This new subsection provides an option for companies to comply with the HON for all VOC, rather than for HAP only, in lieu of meeting the requirements of this division. As noted earlier, the EPA has also agreed that for petroleum refineries, compliance with the Refinery MACT is sufficient to demonstrate RACT.

Clark and Exxon commented on §115.142(1)(D)(ii), regarding control of junction boxes. Clark stated that the regulatory history of control of junction boxes by EPA indicates that the major concern is convective emissions due to air currents drafting through the sewer system. Clark stated that these emissions can be adequately prevented through the use of water seal controls. Clark further stated that the breathing losses that occur when a lift station periodically cycles from high level to low level are not significant, and consequently that junction boxes that are emptied (not filled) with a pump should be exempted. Exxon expressed its belief that control of junction box vents is not justified in the preamble of the proposal. Exxon noted that the HON and Benzene NESHAP rules require control of junction box vents, but that these rules are intended to control HAP emissions, whereas the Chapter 115 IWW rule is intended to control VOC emissions. Exxon stated that new source performance standards (NSPS) Subpart QQQ for petroleum refinery wastewater does not require control of junction box vents, and was used as the guide in the current Chapter 115 IWW rule. Exxon also questioned the statement in the preamble of the rule proposal that "control of junction boxes equipped with pumps, but not controlled under the HON rules, would be achieved most economically by piping to an existing control device."

As noted earlier, the EPA has stated that the Chapter 115 IWW rules were deficient because the rule only required a junction box vent to be equipped with a vent pipe at least 36 inches in length and no more than 4.0 inches in diameter. The EPA has further stated that junction box vents should also be controlled by a control device, or by equipping the junction box with a system to prevent the flow of VOC (for example, a water seal). New Source Performance Standards (NSPS) Subpart QQQ was one of many rules and documents reviewed during the initial Chapter 115

IWW rule development, but the EPA has recommended the HON wastewater provisions as the model wastewater rule, and not NSPS Subpart QQQ. The commission agrees with the commenters that the HON and Benzene NESHAP rules are intended to control HAP emissions. It should be noted, however, that the EPA has recommended the HON wastewater provisions as the model wastewater rule.

The EPA's objective in specifying controls for junction boxes in an individual drain system is to isolate them such that the free flow of vapors within the system is prevented. Clark did not provide documentation to support their contention that junction boxes which are emptied (not filled) with a pump have insignificant breathing losses and should be exempted. In addition, this approach is inconsistent with the HON requirements for junction boxes, which the EPA has also identified as necessary for fulfillment of RACT requirements. The commission agrees with Clark that water seal controls are appropriate for junction boxes filled and emptied by gravity flow and has added these requirements, consistent with 40 CFR 63.136(e)(2)(ii)(B) of the HON, to §115.142(1)(D)(ii)(II). The commission has also added a definition of "water seal controls" to §115.140. This definition is consistent with the corresponding definitions in the Benzene NESHAP and the HON. The statement in the rule proposal preamble that "control of junction boxes equipped with pumps, but not controlled under the SOCFI HON rules, would be achieved most economically by piping to an existing control device" simply reflects the fact that piping to an existing control device is generally more economical than installation of a new control device.

Clark commented on §115.142(1)(D)(ii)(II) and stated that the meaning of "slight fluctuations" in the liquid level in junction boxes is unclear, and suggested that up to 20% fluctuation in liquid level be allowed so long as the water seal controls are in place and have not been breached.

The rule language of §115.142(1)(D)(ii)(II) corresponds to that of the HON (40 CFR 63.136(e)(2)(ii)). In *Questions and Answers for Subparts F and G of Part 63 Hazardous Organic NESHAP (HON)*, the EPA addressed this question in regard to the HON as follows: "The level of liquid in the junction box must not fluctuate more than slightly over time, in order to avoid a "piston effect" that drives organic HAP vapors out of the junction box. For example, if the level is as nearly constant as a sensor-triggered pump can reasonably achieve, that will be sufficient even though the pump may not be running constantly. As an extreme opposite example, you would not be allowed to activate the pump only when the junction box is almost full, unless that is the designated level which will be maintained. Please recall that water seals are required, and the vent pipe must meet specific length and diameter limits specified in section 63.136 (e)(2)(ii)(A), which are at least 90 centimeters in length and no greater than 10.2 centimeters (4 inches) in nominal inside diameter." The commission believes that this sufficiently clarifies the intent of the term "slight fluctuations" and has made no change to the rule language in response to the comment.

Baker, BP, and TCC commented on the proposed §115.143(b), which relocates the 90% overall control option of the existing §115.147(5) to the new §115.143(b). TCC objected to the inclusion of wastewater storage and handling in the 90% overall control option without further justification, while

Baker opposed the relocation and BP questioned why this change was proposed. TCC also commented that there is no language indicating that the facility can transfer the VOC-containing waters to an off-site or on-site, non-owned/operated wastewater treatment facility and still comply with the rule.

The commission is simply relocating the 90% overall control option from the existing §115.147(5), concerning Exemptions, to the new §115.143(b), concerning Alternate Control Requirements.

Since the existing rule §115.147(5) establishes an alternate control option rather than an exemption, this option more logically belongs in §115.143. Sources which are operating under the 90% overall control option of the existing §115.147(5) may continue to operate under this 90% overall control option after the relocation. Regarding TCC's comment about transfer of VOC-containing waters to an off-site or on-site, non-owned/operated wastewater treatment facility, the commission's comments in the initial adoption of the rule (19 TexReg 3708, May 13, 1994) are as follows:

"It is the intent of this rule to make the owner or operator of the affected source category generating a wastewater stream subject to this rule the entity responsible for ensuring compliance with the rule. A wastewater stream is subject to this rule from the point of generation until the wastewater stream is returned to a process unit or is treated to remove VOC so that it is no longer an affected VOC wastewater stream. The owner or operator may choose to control and treat this wastewater within facilities owned or controlled by the owner or operator, or it may choose to transfer the wastewater to a third party, such as a POTW [Public Owned Treatment Works], for treatment to remove VOC. Regardless of the choice made by the owner or operator, it is the

owner or operator, not the third party, who is responsible for rule compliance. The owner or operator may contract with a POTW to control and treat the wastewater in accordance with the requirements of this rule, but the POTW does not become responsible for compliance with the rule, other than its responsibility to the owner or operator through contractual relationship. In other words, the responsibility of the owner or operator does not end when the wastewater leaves the property of the owner and enters the POTW. If the POTW does not handle the wastewater in accordance with the rule, it is the owner or operator which will be subject to any enforcement action, not the POTW." These comments clearly indicate, in cases where an affected wastewater stream is generated and then transferred to an off-site third party for treatment, the generator is still responsible for ensuring that the wastewater is handled in accordance with rule requirements. The generator, not the third party, is responsible for demonstrating compliance with the rule. Any changes to the rules which would make the third party, rather than the generator, responsible would require additional rulemaking since otherwise the third party would not be given proper notice of the changes. The commission has made no changes in response to the comments.

TCC commented on §115.144 and reiterated its position that the IWW rules should not be revised, except to include BPA or to make language clarifications. In particular, TCC objected to the proposed §115.144(4), concerning initial demonstration of a 90% VOC reduction and weekly measurement of the TSS in the aeration basin of biotreatment units. TCC also commented on the proposed §115.144(3)(E) and suggested that flares not be required to meet the requirements of 40 CFR 60.18(b) and that the

reference to Chapter 111 be deleted. TCC supported the proposed addition of §115.144(3)(H), which addresses vapor control systems other than those specifically listed in §115.144(3)(A)-(G).

As noted earlier, revisions to the Chapter 115 IWW rules are necessary to address deficiencies in the rules which the EPA has identified as deficient in implementing IWW RACT. In particular, the EPA has stated that one of the deficiencies in the rules is that a test method for biotreatment units is needed to ensure that each "properly operated biotreatment unit" meets the TSS limit and therefore is able to demonstrate that it is, in fact, properly operated. The EPA has made it clear that failure to correct this rule language will result in an unapprovable rule, with associated undesirable consequences for BPA and HGA. Regarding requirements for flares, most existing flares meet the design and operating criteria of 40 CFR 60.18(b), based upon information from the Air Permits Division. The commission solicited information regarding flares which are used to control emissions from IWW, but do not meet the requirements of 40 CFR 60.18(b). However, none were identified. The reference to Chapter 111 is simply a courtesy for the reader. The commission has made no changes in response to these comments.

TCC commented on §115.145 and reiterated its position that the IWW rules should not be revised, except to include BPA or to make language clarifications. In particular, TCC objected to the proposed §115.145(7) and (8), which list test methods for determination of TSS biotreatment unit efficiency.

Again, revisions to the Chapter 115 IWW rules are necessary to address deficiencies in the rules which the EPA has identified as deficient in implementing IWW RACT. One of the deficiencies

identified concerns the lack of a test method for biotreatment units to ensure that each "properly operated biotreatment unit" meets the TSS limit and therefore is able to demonstrate that it is, in fact, properly operated. The EPA has made it clear that failure to correct this rule language will result in an unapprovable rule, with associated undesirable consequences for BPA and HGA. The commission has made no changes in response to the comments.

No comments were received on §115.146. This section is adopted without changes.

Clark, Huntsman, and TCC commented on §115.147 and suggested the inclusion of language that would allow an owner/operator to instead follow the HON, Refinery MACT, Benzene NESHAP, NSPS Subpart QQQ, or proposed NSPS Subpart YYY rules, which the commenters believe are more stringent than the Chapter 115 IWW rule. TCC further suggested that any wastewater streams that are subject to the control requirements of the HON, Benzene NESHAP, or NSPS Subpart YYY rules should not be counted toward the 11.03 tons per year cutoff of §115.147(1).

As discussed earlier, the EPA has agreed that compliance with the HON for all VOC, rather than for HAP only, is adequate to demonstrate implementation of RACT. In order to provide flexibility but still ensure a federally-approvable rule, the commission has added a new §115.143(c) to the alternate control requirements section. This new subsection provides an option for companies to comply with the HON for all VOC, rather than for HAP only, in lieu of meeting the requirements of this division. As noted earlier, the EPA has also agreed that for petroleum refineries, compliance with the Refinery MACT is sufficient to demonstrate RACT. Therefore,

the commission revised §115.147 to add an exemption from the Chapter 115 IWW requirements for refineries in BPA. The commission has also added an exemption from the new substantive requirements for refineries in HGA.

Regarding the comment about the 11.03 tons per year cutoff of §115.147(1), the purpose of this facility-wide cutoff is to exempt small facilities with a low annual total VOC loading in wastewater. For larger facilities, §115.147(2) allows the owner/operator to exempt certain wastewater streams from the control requirements, up to the 11.03 tons per year cutoff. The owner/operator is given complete freedom to choose the exempt streams, and therefore can choose to exempt streams that are subject to the HON, Benzene NESHAP, or NSPS Subpart YYY rules if desired. The commission has made no changes in response to this comment.

No comments were received on §115.148. This section is adopted without changes.

Huntsman and TCC commented on §115.149. TCC reiterated its position that the IWW rules should not be revised, except to include BPA or to make language clarifications. In particular, TCC supported the proposed revisions to §115.149(b) which implement the IWW rules in BPA. However, TCC objected to the proposed §115.149(c) and (d), which specify the compliance date for biotreatment units and wet weather retention basins and for control of junction boxes equipped with pumps in HGA. Huntsman suggested that because the existing §115.149(b) specifies a three-year compliance schedule for this contingency measure, the compliance schedule in the proposed new §115.149(b) should be at least three years.

As noted earlier, revisions to the Chapter 115 IWW rules which apply in HGA are necessary to ensure that these rules are federally approvable. As discussed earlier, the commission is adding an exemption for wet weather retention basins (as a new §115.147(5)), and therefore has deleted the reference to wet weather retention basins from §115.149(d). The commission agrees that additional time may be necessary for industry to comply with the new RACT requirements, and therefore has revised the compliance schedule for all substantive new requirements to have a December 31, 2002 compliance date. The commission believes that this will allow industry ample time to comply with the new requirements.

The EPA stated that the batch process rules will be federally approvable as RACT if their comments are addressed.

The commission notes that the adoption and submittal of the batch process RACT rules will fulfill one element of the EPA's revised ozone transport policy and, in conjunction with the commission's completion of other required elements, will allow BPA's attainment date to be extended.

TCC commented that the reference to the EPA's batch processes guidance document in the definition of "annual mass emissions total" in §115.160(2) should include document number EPA-453/R-94-020 rather than EPA-453/R-93-017.

Mr. Randy McDonald of the EPA's Office of Air Quality Planning and Standards advised that EPA-453/R-94-020 is the correct document number, and that there was a mixup on the number

when the document was released in February 1994. Mr. McDonald advised that documents released with document number EPA-453/R-93-017 are identical in content to documents released with document number EPA-453/R-94-020. Since EPA-453/R-94-020 is the correct document number, the commission has revised the definition of "annual mass emissions total" in §115.160(2) to refer to this number. The commission has also revised the references to this document in §115.164(1) and (2) to reflect the correct document number.

TCC suggested that the definition of "annual mass emissions total" in §115.160(2) specify that the point of applicability be determined before control, but after the last recovery device. TCC also suggested that the definition of "emissions before control" in §115.160(8) should likewise be determined after the last recovery device and stated that the EPA's batch processes guidance document makes this distinction. Finally, TCC suggested the addition of a definition of "VOC recovery device," based upon the definition of "recovery device" in the Refinery MACT.

The commission agrees and has made the suggested changes to the definition of "annual mass emissions total" in §115.160(2) and the definition of "emissions before control" in §115.160(8). In addition, the commission has added a definition of "recovery device" as §115.160(12) and has renumbered the proposed §115.160(12) - (14) as §115.160(13) - (15).

TCC suggested that the definition of "annual mass emissions total" in §115.160(2) include a reference to standard permits and standard exemptions registered by Form PI-8.

The commission agrees with the commenter, except that standard exemptions are now known as exemptions from permitting. The commission has revised §115.160(2) to include these references. For consistency, the commission also revised the term "vent" in the first sentence of §115.160(2) to "process vent."

The EPA commented on the definition of "average flow rate" in §115.160(3) and stated that the numerator should be $\sum(F)(D)$, and the denominator should be $\sum D$.

The commission agrees, and has revised the equation accordingly.

The EPA commented on the definition of "process vent" in §115.160(10) and stated that exclusion of vent gas streams containing less than 500 parts per million by volume (ppmv) total VOC is inconsistent with the EPA's *Control of Volatile Organic Compound Emissions from Batch Processes - Alternative Control Techniques Information Document* (EPA-453/R-94-020, February 1994). The EPA stated that vent gas streams containing less than 500 ppmv total VOC do not need to be considered individually for control, but that a vent with a concentration less than 500 ppmv that emits more than 500 pounds per year should be considered in the process for aggregating emissions from multiple vents to see if it is reasonable to control the vent in conjunction with the control of other vents.

The commission agrees, and has revised the definition accordingly.

The EPA commented on the definition of "volatility" in the proposed §115.160(14) and stated that the equation for weighted average volatility in the proposed §115.160(14)(D) was missing a summation in the numerator. As noted earlier, the definition of "volatility" has been renumbered as §115.160(15).

The commission agrees, and has revised the equation accordingly.

No comments were received regarding §115.161, concerning Applicability. This section is adopted without changes.

The EPA and TCC commented on §115.162(2)(C) and stated that this paragraph would be more clearly expressed by deleting the phrase "even if all units should qualify for this exemption."

The commission agrees, and has revised §115.162(2)(C) accordingly.

TCC commented that the term "weighted average FR's" in §115.162(2)(E) is not defined. TCC also commented that "average FR" should instead be "average flow rate" in §115.162(2)(F).

The commission agrees and has corrected "FR" in §115.162(2)(E) and (F) to "flow rate." The commission has also made this correction in §115.162(2)(D).

TCC commented that the term "specified RACT" in §115.162(2)(F)(ii) should instead be "specified cutoffs."

The commission agrees and has made this change.

TCC commented that the OIAI language of §115.162(3) is slightly different from language used in other Chapter 115 rules. TCC also commented that when a batch process has reduced emissions so that it can meet an exemption level or recalculate and get out of the rule individually or in aggregate, the batch process in question should be able to get out of the rule.

OIAI is an EPA concept which means that once emissions from a source exceed the applicability cutoff for a particular VOC regulation in the SIP, that source is always subject to the control requirements of the regulation. The purpose of this requirement is two-fold. First, it serves to discourage a source already subject to regulation from installing minimal controls to circumvent RACT requirements. Second, it improves the clarity of VOC regulations by minimizing the confusion over whether variations in production cause a particular source to be covered by a regulation. A major EPA concern which resulted in the OIAI requirements was their desire to prevent the removal of a control device, which would then result in a significant increase in emissions (i.e., a throughput reduction of 5.0% could result in an emissions increase of 90% if the control device were removed). To provide flexibility but prevent such emissions increases, the rule language includes an incentive for cost-effective and innovative approaches to pollution prevention and waste minimization which reduce emissions to no more than the controlled levels prior to removal of control devices. Also, it should be noted that in the event of revised rules which are less stringent than previous requirements (for example, revisions to definition of VOC which exclude additional compounds from classification as VOC), the OIAI requirements will

apply to the extent that emissions from a source exceed the applicability cutoff for the revised version of the rules.

The differences that TCC alluded to include the addition of a reference to Chapter 106, as well as Chapter 116, because exemptions from permitting were relocated from Chapter 116 to Chapter 106. (See the March 4, 1997 issue of the *Texas Register* (22 TexReg 2439)). This will provide continued flexibility to the regulated community. The differences also include correction of the terms "subsection" and "section" to "division," and updating the term "standard exemption" to "exemption from permitting." Regarding TCC's comment about making changes to meet an exemption, as noted above §116.162(3) provides a mechanism for this, provided that emissions do not increase. The commission has made no changes in response to the comment.

No comments were received regarding §115.163, concerning Alternate Control Requirements. This section is adopted without changes.

TCC stated that §115.164(1) should note that the determination of uncontrolled emissions is made before any control device but after the last recovery device.

The commission agrees that the determination of uncontrolled emissions should be made before control but after the last recovery device. However, the suggested revision to §115.164(1) is unnecessary because the commission has revised the definition of "annual mass emissions total" in §115.160(2) and the definition of "emissions before control" in §115.160(8) to clearly specify that

the determination of uncontrolled emissions is made before any control device but after the last recovery device. In addition, the commission has added a definition of "recovery device" as §115.160(12).

TCC commented that the reference to the EPA's batch processes guidance document in §115.164(1) and (2) should include document number EPA-453/R-94-020 rather than EPA-453/R-93-017.

As noted in the discussion regarding a similar comment concerning the definition of "annual mass emissions total" in §115.160(2), EPA-453/R-94-020 is the correct document number. The commission has revised the references to this document in §115.164(1) and (2) to reflect the correct document number.

TCC commented on §115.165(1), which specifies that the process unit shall be run at full operating conditions and flow rates during any performance test. TCC stated that since the affected sources are batch processes, there is no continuous period of peak values, and suggested that the language be revised to reflect that the intent is to operate at a scenario that represents maximum batch rates (e.g., three batches per day, 1,000 lbs/batch, etc.).

The commission agrees and has revised §115.165(1) accordingly.

TCC commented on §115.165(2)(B)(iv), which specifies that the efficiency of the control device is determined by integrating the mass flow rates over the time of the batch cycle, and dividing the

difference in inlet and outlet mass flow totals by the inlet mass flow total. TCC stated that by integrating over the entire process, it is possible that the overall efficiency will be impacted adversely by extended durations of low/no concentrations.

The commission agrees that control efficiency tends to decrease as concentration decreases.

However, integrating the mass flow rates over the time of the batch cycle and dividing the difference in inlet and outlet mass flow totals by the inlet mass flow total provides a reproducible method to accurately determine the overall control efficiency of the control device. The commission has made no changes in response to the comment.

It has come to the commission's attention that the commas were inadvertently omitted after the terms "infrared" and "photoionization" in §115.166(1)(A)(iii)(II), (iv)(II), and (v)(II). The commission has made these corrections.

TCC commented on §115.166(1)(A)(iv)(I) and (II) and noted that monitoring and recording of the condenser exit temperature is specified, as well as the VOC concentration exiting a recovery condenser. TCC stated that recovery condensers should not have to monitor for both the exit temperature and VOC concentration.

For recovery condensers, the §115.166(1)(A)(iv) does not require monitoring of temperature and VOC concentration. Instead, the rule allows either monitoring method to be used. The commission has made no changes in response to the comment.

TCC commented on §115.166(1)(A)(v) and (3)(C)(v) and noted that the terms "uniform pattern" and "fairly constant" in the last sentence of these rules are subjective and suggested the inclusion of a range of variability around a norm/mean/etc.

The commission agrees that these terms are subjective. Since the subject sentence does not appear necessary, the commission has deleted it from §115.166(1)(A)(v) and (3)(C)(v).

TCC commented on §115.167(1) and suggested that the wording be clarified to specify that emissions are evaluated before control, but after the last recovery device.

The commission agrees and has revised §115.167(1) accordingly.

TCC commented further on §115.167(1) and suggested that determination of uncontrolled emissions should only include VOC emissions from process vents, rather than total VOC emissions from the account.

Because the EPA never issued a batch processes CTG, batch process sources are classified as non-CTG sources under the EPA "Blue Book" document titled *Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations - Clarification to Appendix D of November 24, 1987 Federal Register (May 25, 1988)*. On page 2-3, the Blue Book specifies that emissions from all nonregulated sources must be aggregated, and that nonregulated sources include non-CTG sources and "sources which would have been covered by a CTG if they had been above the EPA-

accepted size cutoff." Sources above the EPA-accepted size cutoff of a CTG, and therefore are subject to control requirements, are excluded. The Blue Book further specifies that this determination of aggregated emissions is "based on theoretical potential to emit (design capacity (or maximum production) and 8760 hr/yr) before add-on controls." Consequently, TCC's suggested approach would not meet the EPA's criteria for approvability because it would exclude emissions that the EPA requires to be included. The commission's approach is to exempt batch process emissions at an account which has total VOC emissions (determined before control but after the last recovery device) of less than 100 tons per year from all stationary emission sources included in the account. While this will include emissions from sources which the EPA's approach excludes, it also avoids the inherent difficulties in basing the determination on potential to emit rather than actual emissions. This will also ensure that RACT is in place at major sources, as required by the 1990 FCAA Amendments. The commission expects that batch processes which are not cost-effective to control will be excluded under one of the exemptions available in §115.167. The commission further expects that batch processes which do not qualify for one of these exemptions will be excluded from the 90% control requirement by the successive ranking scheme of §115.162(2) if those batch processes are not cost-effective to control. The commission has made no changes in response to the comment.

TCC commented on §115.167(2) and questioned why the cutoff for moderate volatility (15,935 pounds per year) was lower than the cutoff for high volatility (23,154 pounds per year).

A regression analysis for low, moderate, and high volatility streams and cost data were used to generate the regression curves from which the RACT equations in §115.162(1) were developed. When the annual mass emissions total cutoffs of §115.167(2) are input into the appropriate RACT equations in §115.162(1), the resulting values of FR are zero. Essentially, these RACT equations adjust for the annual mass emissions total. While the annual mass emissions total cutoff for moderate volatility intuitively would be between the low volatility and high volatility cutoffs, the data used to generate the RACT equations resulted in moderate volatility having the lowest annual mass emissions total cutoff. It should be noted that these RACT equations take cost into account, such that annual mass emissions totals below the cutoffs in §115.167(2) are exempt from the control requirements since these vents are considered less cost-effective to control.

TCC commented on the second sentence in §115.169: "All batch process operations subject to this division in Hardin, Jefferson, and Orange Counties shall continue to comply with the requirements of Division 2 of this subchapter (relating to Vent Gas Control) until these batch process operations are in compliance with the requirements of this division." TCC expressed concern that this could imply that if a facility were not subject to the new batch process rules, it would still have to comply with the vent gas rules in Division 2 until December 31, 2001, even if they were not otherwise subject to that division.

The second sentence in §115.169 is simply intended to specify that batch processes which currently are required to be controlled under the vent gas rules in Division 2, Subchapter B of Chapter 115 must continue to be comply with the applicable requirements of the vent gas rules until these batch processes are either complying with or are exempt from the new requirements of the batch

process rules in Division 6, Subchapter B of Chapter 115. The language is also intended to specify that batch processes which currently are exempt under the vent gas rules in Division 2, Subchapter B of Chapter 115 must continue to be demonstrate that they are exempt under the vent gas rules until these batch processes are either complying with or are exempt from the new requirements of the batch process rules in Division 6, Subchapter B of Chapter 115. The continued application of the vent gas rules to batch processes before December 31, 2001 is necessary to ensure that there is not a relaxation of existing requirements before the batch process rules' final compliance date. The commission believes that the rule language is clear and has made no changes in response to the comment.

STATUTORY AUTHORITY

The amendments are adopted under the Texas Health and Safety Code, the TCAA, §382.017, which provides the commission with the authority to adopt rules consistent with the policy and purposes of the TCAA; and TCAA, §382.012, which requires the commission to develop plans for protection of the state's air.

SUBCHAPTER B : GENERAL VOLATILE ORGANIC COMPOUND SOURCES

DIVISION 4 : INDUSTRIAL WASTEWATER

§§115.140, 115.142 - 115.149

§115.140. Industrial Wastewater Definitions.

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

(1) **Affected source category** - Any of the following source categories:

(A) organic chemicals, plastics, and synthetic fibers manufacturing industry under Standard Industrial Classification (SIC) codes 2821, 2823, 2824, 2865, and 2869;

(B) pesticides manufacturing industry under SIC code 2879;

(C) petroleum refining industry under SIC code 2911;

(D) pharmaceutical manufacturing industry under SIC codes 2833, 2834, and 2836;

(E) hazardous waste treatment, storage, and disposal facilities industry under SIC codes 4952, 4953, and 4959.

(2) **Affected volatile organic compound (VOC) wastewater stream** - A VOC wastewater stream from an affected source category with either a VOC concentration greater than or equal to 10,000 parts per million by weight (ppmw) or a VOC concentration greater than or equal to 1,000 ppmw and a flow rate greater than or equal to 10 liters per minute (2.64 gallons per minute), as determined in accordance with §115.148 of this title (relating to Determination of Wastewater Characteristics).

(3) **Plant** - All facilities included within the same Texas Natural Resource Conservation Commission account number.

(4) **Point of generation** - The location where a VOC wastewater stream exits a process unit.

(5) **Properly operated biotreatment unit** - A suspended growth process that generates biomass and recycles biomass to maintain biomass concentrations in the treatment unit. The average concentration of suspended biomass maintained in the aeration basin of a properly operated biotreatment unit shall equal or exceed 1.0 kilogram per cubic meter (kg/m^3), measured as total suspended solids.

(6) **Volatile organic compounds (VOC) wastewater** - Water which, as part of a facility process, has come into contact with VOC and is intended for treatment, disposal, or discharge without further use in the process unit.

(7) **Water seal controls** - a seal pot, p-leg trap, or other type of trap filled with water (e.g., flooded sewers that maintain water levels adequate to prevent air flow through the system) that creates a water barrier between the water level of the seal and the atmosphere. The water level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

(8) **Wet weather retention basin** - An impoundment or tank that is used to store rainfall runoff that would exceed the capacity of the wastewater treatment system until it can be returned to the wastewater treatment system or, if the water meets the applicable discharge limits, discharged without treatment. These units may also be used to store wastewater during periods when the wastewater treatment system is shut down for maintenance or emergencies.

§115.142. Control Requirements.

The owner or operator of an affected source category within a plant in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas, as defined in §115.10 of this title (relating to Definitions), shall comply with the following control requirements. Any component of a wastewater storage, handling, transfer, or treatment facility, if the component contains an affected volatile organic compounds (VOC) wastewater stream, shall be controlled in accordance with either paragraph (1) or (2) of this section, except for properly operated biotreatment units which shall meet the requirements of paragraph (3) of this section. In the Dallas/Fort Worth and El Paso areas, and until December 31, 2002 in the Houston/Galveston area, the control requirements apply from the point of generation of an affected VOC wastewater stream until the affected VOC wastewater stream is either

returned to a process unit or is treated to remove VOC so that the wastewater stream no longer meets the definition of an affected VOC wastewater stream. In the Beaumont/Port Arthur area, and after December 31, 2002 in the Houston/Galveston area, the control requirements apply from the point of generation of an affected VOC wastewater stream until the affected VOC wastewater stream is either returned to a process unit, or is treated to reduce the VOC content of the wastewater stream by 90% by weight and also reduce the VOC content of the same VOC wastewater stream to less than 1,000 parts per million by weight. For wastewater streams which are combined and then treated to remove VOC, the amount of VOC to be removed from the combined wastewater stream shall be at least the total amount of VOC that would be removed to treat each individual affected VOC wastewater stream so that they no longer meet the definition of affected VOC wastewater stream, except for properly operated biotreatment units which shall meet the requirements of paragraph (3) of this section. For this division, a component of a wastewater storage, handling, transfer, or treatment facility shall include, but is not limited to, wastewater storage tanks, surface impoundments, wastewater drains, junctions boxes, lift stations, weirs, and oil-water separators.

(1) The wastewater component shall meet the following requirements.

(A) All components shall be fully covered or be equipped with water seal controls.

(B) All openings shall be closed and sealed, except when the opening is in actual use for its intended purpose or the component is maintained at a pressure less than atmospheric pressure.

(C) All liquid contents shall be totally enclosed.

(D) For junction boxes and vented covers, the following requirements apply.

(i) In the Dallas/Fort Worth and El Paso areas, and until December 31, 2002 in the Houston/Galveston area, if any cover, other than a junction box cover, is equipped with a vent, the vent shall be equipped with either a vapor control system which maintains a minimum control efficiency of 90% or a closed system which prevents the flow of VOC vapors from the vent during normal operation. Any junction box vent shall be equipped with a vent pipe at least 90 centimeters (cm) (36 inches (in.)) in length and no more than 10.2 cm (4.0 in.) in diameter.

(ii) In the Beaumont/Port Arthur area, and after December 31, 2002 in the Houston/Galveston area, the following requirements apply.

(I) If any cover or junction box cover, except for junction boxes described in subclause (II) of this clause, is equipped with a vent, the vent shall be equipped with either a vapor control system which maintains a minimum control efficiency of 90% or a closed system which prevents the flow of VOC vapors from the vent during normal operation.

(II) Any junction box that is filled and emptied by gravity flow (i.e., there is no pump) or is operated with no more than slight fluctuations in the liquid level may be vented to the atmosphere, provided it is equipped with:

(-a-) a vent pipe at least 90 cm (36 in.) in length and no more than 10.2 cm (4.0 in.) in diameter; and

(-b-) water seal controls which are installed and maintained at the wastewater entrance(s) to or exit from the junction box restricting ventilation in the individual drain system and between components in the individual drain system. Upon request by the executive director, EPA, or any local program with jurisdiction, the owner or operator shall demonstrate (e.g., by visual inspection or smoke test) that the junction box water seal controls are properly designed and restrict ventilation.

(E) All gauging and sampling devices shall be vapor-tight except during gauging or sampling.

(F) Any loading or unloading to or from a portable container by pumping shall be performed with a submerged fill pipe.

(G) All seals and cover connections shall be maintained in proper condition.

For purposes of this paragraph, "proper condition" means that covers shall have a tight seal around the

edge and shall be kept in place except as allowed by this division, that seals shall not be broken or have gaps, and that sewer lines shall have no visible gaps or cracks in joints, seals, or other emission interfaces.

(H) If any seal or cover connection is found to not be in proper condition, the repair or correction shall be completed as soon as possible but within 15 days of detection, unless the repair or correction is technically impossible without requiring a unit shutdown, in which case the repair or correction shall be made before the end of the next unit shutdown.

(2) If a wastewater component is equipped with an internal or external floating roof, it shall meet the following requirements.

(A) All openings in an internal or external floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface or be equipped with a cover, seal, or lid. Any cover, seal, or lid shall be in a closed (i.e., no visible gap) position at all times except when the opening is in actual use for its intended purpose.

(B) Automatic bleeder vents (vacuum breaker vents) shall be closed at all times except when the roof is being floated off or landed on the roof leg supports.

(C) Rim vents, if provided, shall be set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

(D) Any roof drain that empties into the stored liquid shall be provided with a slotted membrane fabric cover that covers at least 90% of the area of the opening.

(E) There shall be no visible holes, tears, or other openings in any seal or seal fabric.

(F) Secondary seals shall be the rim-mounted type (i.e., the seal shall be continuous from the floating roof to the tank wall). For external floating roof tanks, the accumulated area of gaps that exceed 1/8 in. (0.32 cm) in width between the secondary seal and tank wall shall be no greater than 1.0 in.² per foot (21 cm²/meter) of tank diameter.

(3) In the Beaumont/Port Arthur area, and after December 31, 2002 in the Houston/Galveston area, each properly operated biotreatment unit shall meet the following requirements.

(A) The VOC content of the wastewater shall be reduced by 90% by weight;
and

(B) The average concentration of suspended biomass maintained in the aeration basin of the biotreatment unit shall equal or exceed 1.0 kilogram per cubic meter (kg/m³), measured as total suspended solids.

(4) Any wastewater component that becomes subject to this division by exceeding the provisions of §115.147 of this title (relating to Exemptions) or an affected VOC wastewater stream as defined in §115.140 of this title (relating to Industrial Wastewater Definitions) will remain subject to the requirements of this division, even if the component later falls below those provisions, unless and until emissions are reduced to no more than the controlled emissions level existing prior to the implementation of the project by which throughput or emission rate was reduced to less than the applicable exemption levels in §115.147 of this title; and

(A) the project by which throughput or emission rate was reduced is authorized by any permit or permit amendment or standard permit or exemption from permitting required by Chapter 116 or Chapter 106 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification; and Exemptions from Permitting). If an exemption from permitting is available for the project, compliance with this division must be maintained for 30 days after the filing of documentation of compliance with that exemption from permitting; or

(B) if authorization by permit, permit amendment, standard permit, or exemption from permitting is not required for the project, the owner or operator has given the executive director 30 days' notice of the project in writing.

§115.143. Alternate Control Requirements.

(a) Alternate means of control. Alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division (relating to Industrial Wastewater) may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

(b) 90% overall control option. As an alternative to the control requirements of §115.142 of this title (relating to Control Requirements), the owner or operator of a wastewater storage, handling, transfer, or treatment facility may elect to ensure that the overall control of volatile organic compounds (VOC) emissions at the account from wastewater from affected source categories is at least 90% less than the 1990 baseline emissions inventory, provided that the following requirements are met.

(1) To qualify for the control option available under this subsection after December 31, 1996, the owner or operator of a wastewater component for which a control plan was not previously submitted shall submit a control plan to the executive director, the appropriate regional office, and any local air pollution control program with jurisdiction which demonstrates that the overall control of VOC emissions at the account from wastewater from affected source categories will be at least 90% less than the 1990 baseline emissions inventory. Any control plan submitted after December 31, 1996, must be approved by the executive director before the owner or operator may use the control option available under this subsection for compliance. At a minimum, the control plan shall include the applicable

emission point number (EPN); the facility identification number (FIN); the calendar year 1990 emission rates of wastewater from affected source categories (consistent with the 1990 emissions inventory); a plot plan showing the location, EPN, and FIN associated with a wastewater storage, handling, transfer, or treatment facility; the VOC emission rates for the preceding calendar year; and an explanation of the recordkeeping procedure and calculations which will be used to demonstrate compliance. The VOC emission rates shall be calculated in a manner consistent with the 1990 emissions inventory.

(2) The owner or operator shall submit an annual report no later than March 31 of each year to the executive director, the appropriate regional office, and any local air pollution control program with jurisdiction, which demonstrates that the overall control of VOC emissions at the account from wastewater from affected source categories during the preceding calendar year is at least 90% less than the 1990 baseline emissions inventory. At a minimum, the report shall include the EPN; FIN; the throughput of wastewater from affected source categories; a plot plan showing the location, EPN, and FIN associated with a wastewater storage, handling, transfer, or treatment facility; and the VOC emission rates for the preceding calendar year. The emission rates for the preceding calendar year shall be calculated in a manner consistent with the 1990 emissions inventory.

(3) All representations in control plans and annual reports become enforceable conditions. It shall be unlawful for any person to vary from such representations if the variation will cause a change in the identity of the specific emission sources being controlled or the method of control of emissions unless the owner or operator submits a revised control plan to the executive director, the appropriate regional office, and any local air pollution control program with jurisdiction no later than

30 days after the change. All control plans and reports shall include documentation that the overall reduction of VOC emissions at the account from wastewater from affected source categories continues to be at least 90% less than the 1990 baseline emissions inventory. The emission rates shall be calculated in a manner consistent with the 1990 emissions inventory.

(c) The owner or operator of an affected source category within a plant may elect to comply with the provisions of 40 Code of Federal Regulations 63, Subpart G (National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, as in effect December 9, 1998) as an alternative to complying with this division (relating to Industrial Wastewater), provided that:

(1) the term "VOC" is substituted each place that Subpart G references the term "hazardous air pollutant" or "HAP;"

(2) in Table 9 of *Appendix to Subpart G - Table and Figures*, the average fraction removed (FR) value required for VOC not specifically listed in this table is 0.90; and

(3) before implementing the option available under this subsection, the owner or operator provides written notice to the executive director, the appropriate regional office, and any local air pollution control program with jurisdiction of the intention to use this option.

§115.144. Inspection and Monitoring Requirements.

The owner or operator of an affected source category within a plant in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas shall comply with the following inspection and monitoring requirements.

(1) All seals and covers used to comply with §115.142(1) of this title (relating to Control Requirements) shall be inspected according to the following schedules to ensure compliance with §115.142(1)(G) and (H) of this title:

(A) initially and semiannually thereafter to ensure compliance with §115.142(1)(G) of this title; and

(B) upon completion of repair to ensure compliance with §115.142(1)(G) and (H) of this title.

(2) Floating roofs and internal floating covers used to comply with §115.142(2) of this title shall be subject to the following requirements. All secondary seals shall be inspected according to the following schedules to ensure compliance with §115.142(2)(E) and (F) of this title.

(A) If the primary seal is vapor-mounted, the secondary seal gap area shall be physically measured annually to ensure compliance with §115.142(2)(F) of this title.

(B) If the tank is equipped with a mechanical shoe or liquid-mounted primary seal, compliance with §115.142(2)(F) of this title may be determined by visual inspection.

(C) All secondary seals shall be visually inspected semiannually to ensure compliance with §115.142(2)(E) and (F) of this title.

(3) Monitors shall be installed and maintained as required by this section to measure operational parameters of any emission control device or other device installed to comply with §115.142 of this title. Such monitoring and parameters shall be sufficient to demonstrate proper functioning of those devices to design specifications, and include the monitoring and parameters listed in subparagraphs (A) - (H) of this paragraph, as applicable. In lieu of the monitoring and parameters listed in subparagraphs (A) - (H) of this paragraph, other monitoring and parameters may be approved or required by the executive director:

(A) for an enclosed non-catalytic combustion device (including, but not limited to, a thermal incinerator, boiler, or process heater), continuously monitor and record the temperature of the gas stream either in the combustion chamber or immediately downstream before any substantial heat exchange;

(B) for a catalytic incinerator, continuously monitor and record the temperature of the gas stream immediately before and after the catalyst bed;

(C) for a condenser (chiller), continuously monitor and record the temperature of the gas stream at the condenser exit;

(D) for a carbon adsorber, continuously monitor and record the VOC concentration of exhaust gas stream to determine if breakthrough has occurred. If the carbon adsorber does not regenerate the carbon bed directly in the control device (e.g., a carbon canister), the exhaust gas stream shall be monitored daily or at intervals no greater than 20% of the design replacement interval, whichever is greater, or as an alternative to conducting monitoring, the carbon may be replaced with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and the VOC concentration in the gas stream vented to the carbon adsorber;

(E) for a flare, meet the requirements specified in 40 Code of Federal Regulations 60.18(b) and Chapter 111 of this title (relating to Control of Air Pollution from Visible Emissions and Particulate Matter);

(F) for a steam stripper, continuously monitor and record the steam flow rate, the wastewater feed mass flow rate, the wastewater feed temperature, and condenser vapor outlet temperature;

(G) for a vapor combustor, continuously monitor and record the exhaust gas temperature either in the combustion chamber or immediately downstream before any substantial heat

exchange. Alternatively, the owner or operator of a vapor combustor may consider the unit to be a flare and meet the requirements of subparagraph (E) of this paragraph; and

(H) for vapor control systems other than those specified in subparagraphs (A) - (G) of this paragraph, continuously monitor and record the appropriate operating parameters.

(4) In the Beaumont/Port Arthur and Houston/Galveston areas, units used to comply with §115.142(3) of this title shall:

(A) initially demonstrate a 90% reduction in VOCs by using the methods in §115.145 of this title (relating to Approved Test Methods); and

(B) measure on a weekly basis the total suspended solids in the aeration basin of the biotreatment unit.

§115.145. Approved Test Methods.

Compliance with the emission specifications, vapor control system efficiency, and certain control requirements, inspection requirements, and exemption criteria of §§115.142 - 115.144 and 115.147 of this title (relating to Control Requirements; Alternate Control Requirements; Inspection and Monitoring Requirements; and Exemptions) shall be determined by applying one or more of the following test methods and procedures, as appropriate:

(1) Gas flow rate. Test Methods 1 - 4 (40 Code of Federal Regulations (CFR) Part 60, Appendix A) are used for determining gas flow rates, as necessary.

(2) Concentration of Volatile Organic Compounds (VOC).

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

(B) Test Method 25 (40 CFR 60, Appendix A) is used for determining total gaseous nonmethane organic emissions as carbon.

(C) Test Methods 25A or 25B (40 CFR 60, Appendix A) are used for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis.

(3) Performance requirements for flares and vapor combustors.

(A) For flares, the performance test requirements of 40 CFR 60.18(b) shall apply.

(B) For vapor combustors, the owner or operator may consider the unit to be a flare and meet the performance test requirements of 40 CFR 60.18(b) rather than the procedures of paragraphs (1) and (2) of this section.

(C) Compliance with the requirements of 40 CFR 60.18(b) will be considered to represent 98% control of the VOC in the flare inlet.

(4) Vapor pressure. Use standard reference texts or American Society for Testing and Materials (ASTM) Test Methods D323-89, D2879, D4953, D5190, or D5191 for the measurement of vapor pressure, adjusted for actual storage temperature in accordance with American Petroleum Institute Publication 2517, Third Edition, 1989.

(5) Leak determination by instrument method. Use Test Method 21 (40 CFR 60, Appendix A) for determining VOC leaks and for monitoring a carbon canister in accordance with §115.144(3)(D) of this title (relating to Inspection and Monitoring Requirements).

(6) Determination of VOC concentration of wastewater samples. Use Test Method 5030 (purge and trap) followed by Test Method 8015 with a DB-5 boiling point (or equivalent column), and flame ionization detector, with the detector calibrated with benzene (SW-846 and 40 CFR Part 261); Test Methods 3810, 5030 (followed by 8020), 8240, 8260, and 9060 (SW-846 and 40 CFR Part 261); Test Methods 602 and 624 (40 CFR Part 136); Test Method 5310(B) (Standard Methods 17th Edition); or Test Method 25D (40 CFR Part 60, Appendix A).

(7) Determination of total suspended solids. Use Method 160.2 (Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020) or Method 2540D (Standard Methods for the Examination of Water and Wastewater, 18th Edition, American Public Health Association).

(8) Determination of biotreatment unit efficiency. Use the methods found in 40 CFR 63 Appendix C or 40 CFR 63.145. A stream-specific list of VOCs shall be used and is determined as follows:

(A) compounds with concentrations below one part per million by weight (ppmw) or below the lower detection limit may be excluded;

(B) for the owner or operator that can identify at least 90% by weight of the VOCs in the wastewater stream, the individual VOCs that are 5.0% by weight or greater are required to be included on the list. If less than half of the total VOCs in the wastewater are represented by the compounds that are 5.0% by weight or greater, the owner or operator shall include those individual VOCs with the greatest mass on the stream-specific list of VOCs until 75 compounds or every compound, whichever is fewer, is included on the list, except as provided by subparagraph (A) of this paragraph. The owner or operator shall document that the site-specific list of VOCs is representative of the process wastewater stream; and

(C) for the owner or operator that can identify at least 50% by weight of the VOCs in the wastewater stream, the individual VOCs with the greatest mass on the stream-specific list

of VOCs up to 75 compounds or every compound, whichever is fewer, shall be included on the list, except as provided by subparagraph (A) of this paragraph. The owner or operator shall document that the site-specific list of VOCs is representative of the process wastewater stream.

(9) Minor modifications. Minor modifications to these test methods may be used, if approved by the executive director.

(10) Alternate test methods. Test methods other than those specified in paragraphs (1) - (8) of this section (concerning to Approved Test Methods) may be used if validated by 40 CFR 63, Appendix A, Test Method 301 (effective December 29, 1992). For the purposes of this paragraph, substitute “executive director” each place that Test Method 301 references “administrator.”

§115.146. Recordkeeping Requirements.

The owner or operator of an affected source category within a plant in the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas shall comply with the following recordkeeping requirements.

(1) Complete and up-to-date records shall be maintained as needed to demonstrate compliance with §115.142 and §115.143 of this title (relating to Control Requirements; and Alternate Control Requirements) which are sufficient to demonstrate the characteristics of wastewater streams and the qualification for any exemptions claimed under §115.147 of this title (relating to Exemptions).

(2) Records shall be maintained of the results of any inspection or monitoring conducted in accordance with §115.144 of this title (relating to Inspection and Monitoring Requirements). Records shall be sufficient to demonstrate proper functioning of applicable control equipment to design specifications to ensure compliance with §115.142 and §115.143 of this title.

(3) Records shall be maintained of the results of any testing conducted in accordance with §115.145 of this title (relating to Approved Test Methods).

(4) All records shall be maintained at the plant for at least two years and be made available upon request to representatives of the executive director, EPA, or any local air pollution control agency having jurisdiction in the area.

§115.147. Exemptions.

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

(1) Any plant with an annual volatile organic compounds (VOC) loading in wastewater, as determined in accordance with §115.148 of this title (relating to Determination of Wastewater Characteristics), less than or equal to 10 megagrams (Mg) (11.03 tons) is exempt from the control requirements of §115.142 of this title (relating to Control Requirements).

(2) At any plant with an annual VOC loading in wastewater, as determined in accordance with §115.148 of this title greater than 10 Mg (11.03 tons), any person who is the owner or operator of the plant may exempt from the control requirements of §115.142 of this title one or more affected VOC wastewater streams for which the sum of the annual VOC loading in wastewater for all of the exempted streams is less than or equal to 10 Mg (11.03 tons).

(3) Unless specifically required by this division (relating to Industrial Wastewater), any component of a wastewater storage, handling, transfer, or treatment facility to which the requirements of this division apply is exempt from the requirements of any other portion of this chapter.

(4) If compliance with the control requirements of §115.142 of this title would create a safety hazard in a component of a wastewater storage, handling, transfer, or treatment facility, the owner or operator may request the executive director to exempt that component from the control requirements of §115.142 of this title. The executive director shall approve the request if justified by the likelihood and magnitude of the potential injury and if the executive director determines that reducing or eliminating the hazard is technologically or economically unreasonable based on the emissions reductions that would be achieved.

(5) Wet weather retention basins are exempt from the requirements of this division (relating to Industrial Wastewater).

(6) Petroleum refineries in the Beaumont/Port Arthur area are exempt from the requirements of this division (relating to Industrial Wastewater).

(7) The following exemptions apply to petroleum refineries in the Houston/Galveston area.

(A) Petroleum refineries are exempt from the requirement in §115.142 of this title that after December 31, 2002, the control requirements apply from the point of generation of an affected VOC wastewater stream until the affected VOC wastewater stream is either returned to a process unit, or is treated to reduce the VOC content of the wastewater stream by 90% by weight and also reduce the VOC content of the same VOC wastewater stream to less than 1,000 parts per million by weight, provided that petroleum refineries continue to apply the requirement in §115.142 of this title that the control requirements apply from the point of generation of an affected VOC wastewater stream until the affected VOC wastewater stream is either returned to a process unit, or is treated to remove VOC so that the wastewater stream no longer meets the definition of an affected VOC wastewater stream.

(B) Junction boxes are exempt from the requirements of §115.142(1)(D)(ii) of this title, provided that after December 31, 2002 they continue to comply with the requirements of §115.142(1)(D)(i) of this title.

(C) Properly operated biotreatment units are exempt from the requirements of §§115.142(3), 115.144(4), and 115.145(7) and (8) of this title (relating to Control Requirements; Inspection and Monitoring Requirements; and Approved Test Methods).

§115.148. Determination of Wastewater Characteristics.

The determination of the characteristics of a wastewater stream for purposes of this division (relating to Industrial Wastewater) shall be made as follows.

(1) The characteristics shall be determined at a location between the point of generation and before the wastewater stream is exposed to the atmosphere, treated for volatile organic compounds (VOC) removal, or mixed with another wastewater stream. For wastewater streams which, prior to November 15, 1993, were either actually being mixed or construction had commenced which would result in the wastewater streams being mixed, this mixing shall not establish a limit on where the characteristics may be determined.

(2) The flow rate of a wastewater stream shall be determined on the basis of an annual average by one of the following methods:

(A) the highest annual quantity of wastewater managed, based on historical records for the most recent five years of operation, or for the entire time the wastewater stream has existed if less than five years but at least one year;

(B) the maximum design capacity of the wastewater component;

(C) the maximum design capacity to generate wastewater of the process unit generating the wastewater stream;

(D) measurements that are representative of the actual, normal wastewater generation rates.

(3) The VOC concentration of a wastewater stream shall be determined on the basis of a flow-weighted annual average by one of the following methods, or by a combination of the methods. If the executive director determines that the VOC concentration cannot be adequately determined by knowledge of the wastewater, or by bench-scale or pilot-scale test data, the VOC concentration shall be determined in accordance with subparagraph (C) of this paragraph, or by a combination of the methods in subparagraphs (A), (B), and (C) of this paragraph. VOC with a Henry's Law Constant less than 7.5×10^{-5} atm-m³/mole at 25 degrees Celsius shall not be included in the determination of VOC concentration.

(A) Knowledge of the wastewater. Sufficient information to document the VOC concentration. Examples of information include material balances, records of chemical purchases, or previous test results.

(B) Bench-scale or pilot-scale test data. Sufficient information to demonstrate that the bench-scale or pilot-scale test concentration data are representative of the actual VOC concentration.

(C) Measurements. Collect a minimum of three representative samples from the wastewater stream and determine the VOC concentration for each sample in accordance with §115.145 of this title (relating to Approved Test Methods). The VOC concentration of the wastewater stream shall be the flow-weighted average of the individual samples.

(4) The annual VOC loading in wastewater for a wastewater stream shall be the annual average flow rate determined in paragraph (2) of this section multiplied by the annual average VOC concentration determined in paragraph (3) of this section.

(5) The annual VOC loading in wastewater for a plant shall be the sum of the annual VOC loading in wastewater for each affected VOC wastewater stream.

§115.149. Counties and Compliance Schedules.

(a) The owner or operator of each affected source category within a plant in Brazoria, Chambers, Collin, Dallas, Denton, El Paso, Fort Bend, Galveston, Harris, Liberty, Montgomery, Tarrant, and Waller Counties shall continue to comply with this division (relating to Industrial Wastewater) as required by §115.930 of this title (relating to Compliance Dates).

(b) The owner or operator of each affected source category within a plant in Hardin, Jefferson, and Orange Counties shall be in compliance with this division as soon as practicable, but no later than December 31, 2002.

(c) The owner or operator of each affected source category within a plant in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties shall control all junction boxes equipped with pumps in accordance with §115.142(1)(D)(ii)(II) of this title (relating to Control Requirements) as soon as practicable, but no later than December 31, 2002.

(d) The owner or operator of each affected source category within a plant in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties shall control all biotreatment units in accordance with §115.142(3) and §115.144(4) of this title (relating to Control Requirements; and Inspection and Monitoring Requirements) as soon as practicable, but no later than December 31, 2002.

SUBCHAPTER B : GENERAL VOLATILE ORGANIC COMPOUND SOURCES

DIVISION 6 : BATCH PROCESSES

§§115.160 - 115.167, 115.169

STATUTORY AUTHORITY

The new sections are adopted under the Texas Health and Safety Code, the TCAA, §382.017, which provides the commission with the authority to adopt rules consistent with the policy and purposes of the TCAA; and TCAA, §382.012, which requires the commission to develop plans for protection of the state's air.

§115.160. Batch Process Definitions.

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

(1) **Aggregated** - The summation of all process vents containing volatile organic compounds (VOC) within a process.

(2) **Annual mass emissions total** - The sum of all VOC emissions (pounds per year), evaluated before control but after the last recovery device, from a process vent. Annual mass emissions

shall be calculated from an individual process vent or groups of process vents by using emission estimation equations contained in Chapter 3 of EPA's *Control of Volatile Organic Compound Emissions from Batch Processes - Alternative Control Techniques Information Document* (EPA-453/R-94-020, February 1994) and then multiplying by the historical duration and frequency of the emission or groups of emissions over the course of a year. For process vents that are included in a new source review air permit, standard permit, or exemption from permitting registered by Form PI-8, the annual mass emissions total shall be based on the maximum allowable emission rate (MAER) levels in the permit or Form PI-8 (adjusted to represent the level before control, but after the last recovery device), whether they correspond to the maximum design production potential or to the actual annual production estimate.

(3) **Average flow rate** - The flow rate in standard cubic feet per minute (scfm) averaged over the amount of time that VOCs are emitted during an emission event. For the evaluation of average flow rate from an aggregate of sources, the average flow rate is the weighted average of the average flow rates of the emission events and their annual venting time, or: Figure: 30 TAC §115.160(3)

$$\text{Average flow rate} = \frac{\sum(F)(D)}{\sum D}$$

where:

F = Average flow rate per emission event

D = Annual duration of emission event

(4) **Batch** - A noncontinuous process involving the bulk movement of material through sequential manufacturing steps. Mass, temperature, concentration, and other properties of a system vary with time. Batch processes are not characterized by steady-state conditions. Reactants are not added and products are not removed simultaneously.

(5) **Batch cycle** - A manufacturing event of an intermediate or product from start to finish in a batch process.

(6) **Batch process (for the purpose of determining RACT applicability)** - The batch equipment assembled and connected by pipes, or otherwise operated in a sequence of steps, to manufacture a product in a batch fashion.

(7) **Batch process train** - An equipment train that is used to produce a product or intermediates in batch fashion. A typical equipment train consists of equipment used for the synthesis, mixing, and purification of a material.

(8) **Emissions before control** - The emissions total before the application of a control device but after the last recovery device, or the emissions total if no control device is used. The emissions total may not be reduced to account for discharge of VOC into wastewater if the wastewater is further handled or processed with the potential for VOC emissions to the atmosphere.

(9) **Primary fuel** - The fuel that provides the principal heat input to a device. To be considered a primary fuel, the fuel must be able to sustain operation without the addition of other fuels.

(10) **Process vent** - A vent gas stream that is discharged from a batch process. Process vents include gas streams that are discharged directly to the atmosphere or are discharged to the atmosphere after diversion through a recovery device. Process vents exclude relief valve discharges, leaks from equipment, vents from storage tanks, vents from transfer/loading operations, and vents from wastewater. Process gaseous streams that are used as primary fuels are also excluded. The lines that transfer such fuels to a plant fuel gas system are not considered to be vents.

(11) **RACT** - Reasonably available control technology.

(12) **Recovery device** - An individual unit of equipment capable of and used for recovering chemicals for use, reuse, or sale. Recovery devices include, but are not limited to, absorbers, carbon adsorbers, and condensers.

(13) **Semi-continuous** - Conduction of operations on a steady-state mode but only for finite durations (in excess of eight hours minimum) during the course of a year. For example, a steady-state distillation operation that functions for one month would be considered semi-continuous.

(14) **Unit operations** - Those discrete processing steps that occur within distinct equipment that are used to prepare reactants, facilitate reactions, separate and purify products, and recycle materials.

(15) **Volatility** - As follows.

(A) Low volatility VOCs are those which have a vapor pressure less than or equal to 75 millimeters of mercury (mmHg) at 20 degrees Celsius.

(B) Moderate volatility VOCs are those which have a vapor pressure greater than 75 and less than or equal to 150 mmHg at 20 degrees Celsius.

(C) High volatility VOCs are those which have a vapor pressure greater than 150 mmHg at 20 degrees Celsius.

(D) To evaluate VOC volatility for single unit operations that service numerous VOCs or for processes handling multiple VOCs, the weighted average volatility can be calculated from the total amount of each VOC emitted in a year and the individual component vapor pressure, as follows: Figure: 30 TAC §115.160(15)(D)

$$\text{Weighted average volatility} = \frac{\sum Vp_i \times (M_i / MW_i)}{\sum (M_i / MW_i)}$$

where:

Vp_i = Vapor pressure of VOC component i
 M_i = Mass of VOC component i
 MW_i = Molecular weight of VOC component i

§115.161. Applicability.

(a) The provisions of §§115.162-115.167 of this title (relating to Control Requirements; Alternate Control Requirements; Determination of Emissions and Flow Rates; Approved Test Methods and Testing Requirements; Monitoring and Recordkeeping Requirements; and Exemptions) apply to vent gas streams at batch process operations in the Beaumont/Port Arthur area, as defined in §115.10 of this title (relating to Definitions), under the following Standard Industrial Classification (SIC) codes:

- (1) 2821 (plastic resins and materials);
- (2) 2833 (medicinals and botanicals);
- (3) 2834 (pharmaceutical preparations);
- (4) 2861 (gum and wood chemicals);
- (5) 2865 (cyclic crudes and intermediates);
- (6) 2869 (industrial organic chemicals, not elsewhere classified); and
- (7) 2879 (agricultural chemicals, not elsewhere classified).

(b) Any batch process operation that is exempt under §115.167(1) of this title (relating to Exemptions) is subject to the requirements of Division 2 of this subchapter (relating to Vent Gas Control).

§115.162. Control Requirements.

The owner or operator of each batch process operation in the Beaumont/Port Arthur area shall comply with the following control requirements.

(1) Reasonable available control technology (RACT) equations. The volatile organic compounds (VOC) mass emission rate from individual process vents or for process vent streams in aggregate within a batch process shall be reduced by 90% if the actual average flow rate value (in standard cubic feet per minute (scfm)) is below the flow rate (FR) value calculated using the applicable RACT equation for the volatility range (low, moderate, or high) of the material being emitted when the annual mass emission total (AE, in pounds per year) are input. The RACT equations, specific to volatility, are as follows:

(A) Low volatility: $FR = 0.07(AE) - 1821$;

(B) Moderate volatility: $FR = 0.031(AE) - 494$;

(C) High volatility: $FR = 0.013(AE) - 301$.

(2) Successive ranking scheme. For aggregate streams within a process, the control requirements must be evaluated with the following successive ranking scheme until control of a segment of unit operations is required or until all unit operations have been eliminated from the process pool.

(A) If, for the process vent streams in aggregate, the value of FR calculated using the applicable RACT equation in paragraph (1) of this section is negative (i.e., less than zero), then the process is exempt from the 90% control requirements, and the successive ranking scheme of subparagraph (F) of this paragraph does not apply. This would occur if the mass annual emission rates are below the lower limits specified in §115.167(2)(A) of this title (relating to Exemptions).

(B) If, for the process vent streams in aggregate, the actual average flow rate value (in scfm) is below the value of FR calculated using the applicable RACT equation in paragraph (1) of this section, then the overall emissions from the batch process must be reduced by 90%, and the successive ranking scheme of subparagraph (F) of this paragraph does not apply. The owner or operator has the option of selecting which unit operations are to be controlled and to what levels, provided that the overall control meets the specified level of 90%. Single units that qualify for exemption under §115.167(2)(B) of this title do not have to be controlled even if all units should qualify for this exemption.

(C) If, for the process vent streams in aggregate, the actual average flow rate value (in scfm) is greater than the value of FR calculated using the applicable RACT equation in paragraph (1) of this section (and the calculated value of FR is a positive number), then the control

requirements must be evaluated with the successive ranking scheme of subparagraph (F) of this paragraph until control of a segment of unit operations is required or until all unit operations have been eliminated from the process pool. Single units that qualify for exemption under §115.167(2)(B) of this title do not have to be included in the rankings and do not have to be controlled.

(D) Sources that are required to be controlled to the level specified by RACT (i.e., 90%) will have an average flow rate that is below the flow rate specified by the applicable RACT equation in paragraph (1) of this section (when the source's annual emission total is input). The applicability criterion is implemented on a two-tier basis. First, single pieces of batch equipment corresponding to distinct unit operations shall be evaluated over the course of an entire year, regardless of what materials are handled or what products are manufactured in them. Second, equipment shall be evaluated as an aggregate if it can be linked together based on the definition of a process.

(E) To determine applicability of a RACT option in the aggregation scenario, all the VOC emissions from a single process shall be summed to obtain the annual mass emission total, and the weighted average flow rate from each process vent in the aggregation shall be used as the average flow rate.

(F) All unit operations in the batch process, as defined for the purpose of determining RACT applicability, shall be ranked in ascending order according to their ratio of annual emissions (pounds per year) divided by average flow rate (in scfm). Sources with the smallest ratios shall be listed first. This list of sources constitutes the "pool" of sources within a batch process. The

annual emission total and average flow rate of the pool of sources shall then be compared against the RACT equations in paragraph (1) of this section to determine whether control of the pool is required.

(i) If control is not required after the initial ranking, unit operations having the lowest annual emissions/average flow rate ratio shall then be eliminated one by one, and the characteristics of annual emission and average flow rate for the remaining pool of equipment must be evaluated with each successive elimination of a source from the pool.

(ii) Control of the unit operations remaining in the pool to the specified level (i.e., 90%) shall be required once the aggregated characteristics of annual emissions and average flow rate have met the specified cutoffs. The owner or operator has the option of selecting which unit operations are to be controlled and to what levels, provided that the overall control meets the specified level of 90%.

(3) Once-in, always-in. Any batch process operation that becomes subject to the provisions of this division by exceeding provisions of §115.167 of this title will remain subject to the provision of this division, even if throughput or emissions later fall below exemption limits, unless and until emissions are reduced to no more than the controlled emissions level existing before implementation of the project by which throughput or emission rate was reduced to less than the applicable exemption limits in §115.167 of this title; and

(A) the project by which throughput or emission rate was reduced is authorized by any permit or permit amendment or standard permit or exemption from permitting required by Chapter 116 or Chapter 106 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification; and Exemptions from Permitting). If an exemption from permitting is available for the project, compliance with this division must be maintained for 30 days after the filing of documentation of compliance with that exemption from permitting; or

(B) if authorization by permit, permit amendment, standard permit, or exemption from permitting is not required for the project, the owner/operator has given the executive director 30 days' notice of the project in writing.

§115.163. Alternate Control Requirements.

Alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division (relating to Batch Processes) may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

§115.164. Determination of Emissions and Flow Rates.

The owner or operator of each batch process operation in the Beaumont/Port Arthur area shall determine the mass emissions and flow rates as follows.

(1) Determination of Uncontrolled Annual Emission Total. The owner or operator shall determine the annual mass emissions total by using engineering estimates of the uncontrolled emissions from a process vent or group of process vents within a batch process train and multiplying by the potential or permitted number of batch cycles per year. Engineering estimates must follow the guidance contained in EPA's *Control of Volatile Organic Compound Emissions from Batch Processes - Alternative Control Techniques Information Document* (EPA-453/R-94-020, February 1994). Alternatively, if an emissions measurement is used to measure vent emissions, the measurement must conform with the requirements of measuring incoming mass flow rate of volatile organic compounds as specified in §115.165 of this title (relating to Approved Test Methods and Testing Requirements).

(2) Determination of Average Flow Rate. To obtain a value for average flow rate, the owner or operator may choose to measure the flow rates or to estimate the flow rates using the estimation methods contained in EPA's *Control of Volatile Organic Compound Emissions from Batch Processes - Alternative Control Techniques Information Document* (EPA-453/R-94-020, February 1994). For existing manifolds, the average flow rate may be the flow rate that was assumed in the design.

§115.165. Approved Test Methods and Testing Requirements.

The owner or operator of each batch process operation in the Beaumont/Port Arthur area shall comply with the following.

(1) Performance testing conditions. For the purpose of determining compliance with the control requirements of this division (relating to Batch Processes), the process unit shall be run at a scenario that represents maximum batch rates (e.g., three batches per day, 1,000 lbs per batch, etc.) during any performance test.

(2) Test methods. The owner or operator of each batch process operation shall use the following methods to determine compliance with the percent reduction efficiency requirement of §115.162 of this title (relating to Control Requirements).

(A) Flow rate.

(i) Test Methods 1 or 1A (40 Code of Federal Regulations (CFR) 60, Appendix A) as appropriate, shall be used for selection of the sampling sites if the flow rate measuring device is a rotameter. No traverse is necessary when the flow measuring device is an ultrasonic probe. The control device inlet sampling sites for determination of vent stream volatile organic compounds (VOC) composition reduction efficiency shall be before the control device and after the control device.

(ii) Test Methods 2, 2A, 2C, or 2D (40 CFR 60, Appendix A) as appropriate, shall be used for determination of gas stream volumetric flow rate. Flow rate measurements shall be made continuously.

(B) Concentration of VOC. Test Method 18 (40 CFR 60, Appendix A) (gas chromatography) or Test Method 25A (40 CFR 60, Appendix A) (flame ionization) shall be used to determine the concentration of VOC in the control device inlet and outlet.

(i) The sampling time for each run shall be the entire length of the batch cycle, during which readings shall be taken:

(I) continuously if Method 25A is used; or

(II) as often as is possible using Method 18, with a maximum of one-minute intervals between measurements throughout the batch cycle.

(ii) The emission rate of the process vent or inlet to the control device shall be determined by combining continuous concentration and flow rate measurements at simultaneous points throughout the batch cycle.

(iii) The mass flow rate of the control device outlet shall be determined by combining continuous concentration and flow rate measurements at simultaneous points throughout the batch cycle.

(iv) The efficiency of the control device shall be determined by integrating the mass flow rates obtained in clauses (ii) and (iii) of this subparagraph over the time of the batch cycle, and dividing the difference in inlet and outlet mass flow totals by the inlet mass flow total.

(C) Performance requirements for flares and vapor combustors.

(i) For flares, the performance test requirements of 40 CFR 60.18(b) shall apply.

(ii) For vapor combustors, the owner or operator may consider the unit to be a flare and meet the performance test requirements of 40 CFR 60.18(b).

(iii) Compliance with the requirements of 40 CFR 60.18(b) will be considered to represent 98% control of the VOC in the flare inlet.

(D) Minor modifications. Minor modifications to these test methods may be used, if approved by the executive director.

(E) Alternate test methods. Test methods other than those specified in subparagraphs (B) and (C) of this paragraph may be used if validated by 40 CFR 63, Appendix A, Test Method 301 (effective December 29, 1992). For the purposes of this paragraph, substitute “executive director” each place that Test Method 301 references “administrator.”

§115.166. Monitoring and Recordkeeping Requirements.

The owner or operator of each batch process operation in the Beaumont/Port Arthur area shall maintain the following information for at least two years at the plant, as defined by its air quality account number. The owner or operator shall make the information available upon request to representatives of the executive director, EPA, or any local air pollution control agency having jurisdiction in the area:

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

(A) continuous monitoring and recording of:

(i) for a direct-flame incinerator, the exhaust gas temperature in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange. The temperature monitoring device shall have an accuracy of ± 0.5 degrees Celsius, or alternatively, $\pm 1.0\%$;

(ii) for a catalytic incinerator, the exhaust gas temperature immediately before and after the catalyst bed. The temperature monitoring device shall have an accuracy of ± 0.5 degrees Celsius, or alternatively, $\pm 1.0\%$;

(iii) for an absorber, either:

(I) the scrubbing liquid temperature. The temperature monitoring device shall have an accuracy of $\pm 1.0\%$ of the temperature being monitored in degrees Celsius, or alternatively, ± 0.02 specific gravity unit; or

(II) the concentration level of VOC exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity;

(iv) for a condenser or refrigeration system, either:

(I) the condenser exit temperature. The temperature monitoring device shall have an accuracy of $\pm 1.0\%$ of the temperature being monitored in degrees Celsius, or alternatively, ± 0.5 degrees Celsius; or

(II) the concentration level of VOC exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity;

(v) for a carbon adsorption system, as defined in §101.1 of this title (relating to Definitions), either:

(I) steam flow (using an integrating steam flow monitoring device) and the carbon bed temperature. The steam flow monitor shall have an accuracy of $\pm 10\%$. The temperature monitor shall have an accuracy of $\pm 1.0\%$ of the temperature being monitored in degrees Celsius, or ± 0.5 degrees Celsius, whichever is greater; or

(II) the concentration level of VOC exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity;

(vi) for a pressure swing adsorption unit that is the final recovery device, the temperature of the bed near the inlet and near the outlet. The temperature monitoring device shall have an accuracy of $\pm 1.0\%$ of the temperature being monitored in degrees Celsius, or ± 0.5 degrees Celsius; and

(vii) for a vapor combustor, the exhaust gas temperature in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange. The temperature monitoring device shall have an accuracy of ± 0.5 degrees Celsius, or alternatively, $\pm 1.0\%$. Alternatively, the owner or operator of a vapor combustor may consider the unit to be a flare and meet the requirements of subparagraph (B) of this paragraph.

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

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

(2) Process vents. A record of the following emission stream parameters for each process vent contained in the batch process:

(A) the annual mass emission total and documentation verifying these values. If emission estimate equations are used, the documentation shall be the calculations coupled with the expected or permitted (if available) number of emission events per year; and

(B) the average flow rate in standard cubic feet per minute and documentation verifying these values.

(3) Performance test monitoring parameters. Records of the following parameters required to be measured during a performance test required under §115.165 of this title (relating to Approved Test Methods and Testing Requirements) and required to be monitored under paragraph (1) of this section:

(A) where an owner or operator seeks to demonstrate compliance with §115.162 of this title (relating to Control Requirements) through use of either a direct-flame or catalytic incinerator, the average firebox temperature of the incinerator (or the average temperature upstream and

downstream of the catalyst bed for a catalytic incinerator), measured continuously and averaged over the same time period as the performance test;

(B) where an owner or operator seeks to demonstrate compliance with §115.162 of this title through use of a smokeless flare, the flare design (i.e., steam-assisted, air-assisted, or nonassisted), all visible emissions readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the performance test; continuous flare pilot flame monitoring; and all periods of operations during which the pilot flame is absent; and

(C) where an owner or operator seeks to demonstrate compliance with §115.162 of this title:

(i) with an absorber as the final control device, the exit specific gravity (or alternative parameter which is a measure of the degree of absorbing liquid saturation, if approved by the executive director) and average exit temperature of the absorbing liquid measured continuously and averaged over the same time period as the performance test (both measured while the vent stream is routed normally);

(ii) with a condenser as the control device, the average exit (product side) temperature measured continuously and averaged over the same time period as the performance test while the vent stream is routed normally;

(iii) with a carbon adsorption system as the control device, the total steam mass flow measured continuously and averaged over the same time period as the performance test (full carbon bed cycle), temperature of the carbon bed after regeneration (and within 15 minutes of completion of any cooling cycle(s)), and duration of the carbon bed steaming cycle (all measured while the vent stream is routed normally);

(iv) the concentration level or reading indicated by an organic monitoring device at the outlet of the absorber, condenser, or carbon adsorption system, measured continuously and averaged over the same time period as the performance test while the vent stream is routed normally; and

(v) with a pressure swing adsorption unit as the final recovery device, the temperature of the bed near the inlet and near the outlet. The temperature monitoring device shall have an accuracy of $\pm 1.0\%$ of the temperature being monitored in degrees Celsius, or ± 0.5 degrees Celsius.

§115.167. Exemptions.

The following exemptions apply in the Beaumont/Port Arthur area.

(1) Batch process operations at an account which has total volatile organic compound (VOC) emissions (determined before control but after the last recovery device) of less than 100 tons per

year from all stationary emission sources included in the account are exempt from the requirements of this division (relating to Batch Processes), except for §115.161(b) of this title (relating to Applicability).

(2) The following are exempt from the requirements of this division, except for §115.166(2) and (3) of this title (relating to Monitoring and Recordkeeping Requirements):

(A) Combined vents from a batch process train which have an annual mass emissions total as follows: Figure: 30 TAC §115.167(2)(A)

Volatility Range	Lower Limit of Annual Mass Emissions Total in pounds per year (lb/yr)
Low	26,014
Moderate	15,935
High	23,154

(B) Single unit operations that have an annual mass emissions total of 500 lb/yr or less.

§115.169. Counties and Compliance Schedules.

The owner or operator of each batch process operation in Hardin, Jefferson, and Orange Counties shall be in compliance with this division (relating to Batch Processes) as soon as practicable, but no later than December 31, 2001. All batch process operations subject to this division in Hardin, Jefferson, and Orange Counties shall continue to comply with the requirements of Division 2 of this subchapter (relating to Vent Gas Control) until these batch process operations are in compliance with the requirements of this division.