

The Texas Commission on Environmental Quality (TCEQ or commission) adopts the amendments to §§115.322 - 115.326, 115.352 - 115.357, 115.781, 115.782, and 115.786 - 115.788. The commission also adopts new §115.358 and §115.784.

Amended §§115.322 - 115.326, 115.352 - 115.357, 115.781, 115.782, 115.786 and 115.788 and new §115.358 and §115.784 are adopted *with changes* to the proposed text as published in the December 25, 2009, issue of the *Texas Register* (34 TexReg 9315). Section 115.787 is adopted *without change* to the proposed text and the text will not be republished.

The amended and new sections of Chapter 115 will be submitted to the United States Environmental Protection Agency (EPA) as revisions to the state implementation plan (SIP).

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

On December 22, 2008, the EPA finalized an alternative work practice using optical gas imaging instruments to detect fugitive emission leaks from equipment. The EPA now allows the use of the alternative work practice for numerous federal leak detection and repair (LDAR) regulations in 40 Code of Federal Regulations (CFR) Parts 60, 61, 63, and 65. Because of overlapping state rules and permit requirements with fugitive emission LDAR programs, many facilities will not be able to use the federal alternative work practice until Texas fugitive emission LDAR rules are revised and, if necessary; the sites obtain permit revisions to allow the use of the alternative work practice. This rulemaking will amend the Chapter 115 fugitive emissions rules to incorporate an alternative work practice similar to the work practice adopted by the EPA in December 2008. New Source Review (NSR) air permit LDAR requirements are a separate regulatory requirement from the Chapter 115 fugitive emissions rules and this

rulemaking does not change any site's applicable permit LDAR requirements. Companies wanting to use the alternative work practice still need to change the facility's permit LDAR requirements through the normal NSR process.

Fugitive emission LDAR rules in Chapter 115 fall under two general categories and all are incorporated in the SIP. Subchapter D, Divisions 2 and 3 are general volatile organic compounds (VOC) fugitive emission LDAR rules and were implemented to satisfy reasonably available control technology (RACT) requirements of the Federal Clean Air Act (FCAA). The highly-reactive volatile organic compounds (HRVOC) fugitive emission LDAR rules are in Subchapter H, Division 3 and were implemented as part of the Houston-Galveston-Brazoria (HGB) attainment demonstration for the one-hour ozone National Ambient Air Quality Standard (NAAQS). The adopted rulemaking revises Subchapter D, Divisions 2 and 3, and Subchapter H, Division 3 to incorporate an alternative work practice similar to the alternative work practice adopted by the EPA. Subchapter D, Division 2 applies to petroleum refineries in Gregg, Nueces, and Victoria Counties. Subchapter D, Division 3 applies to the following facility types in the Beaumont-Port Arthur (BPA), Dallas-Fort Worth (DFW), El Paso, and HGB areas as defined in §115.10: petroleum refineries; synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing processes; or natural gas/gasoline processing operations. Subchapter H, Division 3 applies to the following facility types in the HGB area as defined in §115.10 that have HRVOC as a raw material, intermediate, final product, or in a waste stream: petroleum refineries; synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing processes; or natural gas/gasoline processing operations.

The alternative work practice is not a different test method that can be just referenced as an alternate to the method traditionally used for performing LDAR screening with a hydrocarbon analyzer, EPA Method

21. At the current state of technology, the optical gas imaging instruments used for the alternative work practice are not capable of determining concentration levels. Therefore, optical gas imaging instruments cannot be directly compared to the hydrocarbon analyzers used with Method 21. Because optical gas imaging instruments may not be as sensitive as Method 21 hydrocarbon analyzers, it is possible that some smaller leaks may go undetected under an alternative work practice monitoring program. The fundamental premise of the alternative work practice adopted by the EPA is that more frequent monitoring with optical gas imaging instruments allows larger leaks to be detected and repaired faster than a leak might have been under the traditional LDAR work practice. While some smaller leaks might not be detected by optical gas imaging instruments, the overall control level under an alternative work practice approach using optical gas imaging instruments is considered to be equivalent or superior to the traditional work practice using Method 21. This principle makes the alternative work practice more similar to an alternative means of control rather than an alternative test method. Additional detail concerning the EPA's analyses justifying the use of the alternative work practice can be found in the December 22, 2008, issue of the *Federal Register* (73 FR 78199).

The Chapter 115 alternative work practice being adopted by the commission is optional. Owners or operators of sites subject to the Chapter 115 fugitive emission LDAR rules may choose to use the alternative work practice or continue using the current traditional work practice. In addition, because optical gas imaging instruments have limitations regarding the chemicals that can be detected, the commission is not adopting an "all-in or all-out" approach. Even within the same unit at a site, there may be components in different VOC service that an optical gas imaging instrument is not capable of detecting sufficient VOC species to be effectively used under the alternative work practice. Therefore, companies must have sufficient flexibility to evaluate which components can be monitored according to the Chapter

115 alternative work practice and which components must be monitored according to the traditional Method 21 work practice.

Because the alternative work practice is a type of alternate means of control under the Chapter 115 fugitive emission LDAR rules, additional revisions to the rules are necessary beyond just referencing the federal alternative work practice in order to properly integrate the alternative work practice into the rules. As much as possible, the commission has attempted to mirror the alternative work practice adopted by the EPA. For example, the optical gas imaging instrument specifications in 40 CFR §60.18(i) are incorporated by reference and the frequencies for performing the alternative work practice are identical to the frequencies in Table 1 in Subpart A of 40 CFR Part 60. However, certain aspects of the alternative work practice adopted by the EPA are not consistent with the requirements of the Chapter 115 rules. In addition, there are components of the federal alternative work practice that may not provide adequate enforceability to ensure that the alternative work practice would be effectively implemented. Therefore, the commission adopted some additional requirements to help ensure proper enforceability and effectiveness of the Chapter 115 alternative work practice. These issues and additional requirements are discussed in greater detail in the SECTION BY SECTION DISCUSSION portion of this preamble.

In the final alternative work practice adopted by the EPA, an annual Method 21 screening is required for all components that are monitored according to the EPA alternative work practice. One of the EPA's indicated purposes of this annual Method 21 screening requirement was to assess the extent that small leaks are undetected by the alternative work practice and become larger leaks (December 22, 2008, issue of the *Federal Register* (73 FR 78202)). The commission agrees with the EPA's intent behind this requirement and adopted this requirement into the Chapter 115 alternative work practice; however, the

commission adopted an option for this annual Method 21 monitoring requirement for certain components subject to Subchapter H, Division 3 if the components are monitored according to the Chapter 115 alternative work practice but are not subject to federal LDAR regulations in 40 CFR Parts 60, 61, 63, or 65. Additional detail on this option is provided in the SECTION BY SECTION DISCUSSION portion of this preamble. The commission did not adopt the requirement for all sites to submit the annual Method 21 screening data to the EPA electronically as specified in 40 CFR §60.18(i)(5). Sites subject to federal LDAR regulations in 40 CFR Parts 60, 61, 63, or 65 are still required to comply with this electronic reporting requirement if the owner or operator is using the alternative work practice for compliance with those federal LDAR regulations.

*Demonstrating Noninterference under FCAA, Section 110(l)*

The commission provides the following information to clarify why the inclusion of the Chapter 115 alternative work practice will not negatively impact the status of the state's progress towards attainment with the ozone NAAQS.

*Subchapter D, Divisions 2 and 3*

As discussed elsewhere in this preamble, the general VOC fugitive emission LDAR rules in Subchapter D, Divisions 2 and 3 were implemented to satisfy RACT requirements under the FCAA. The applicable leak definition in Subchapter D, Division 2 under the traditional Method 21 work practice is 10,000 parts per million by volume (ppmv). The applicable leak definitions in Subchapter D, Division 3 under the traditional Method 21 work practice are 10,000 ppmv for pump seals and compressor seals, and 500 ppmv for all other components subject to the division. When finalizing the federal alternative work practice, the EPA indicated (December 22, 2008, issue of the *Federal Register* (73 FR 78202)) that the most stringent

leak definition, 500 ppmv, was used to determine the leak threshold of 60 grams per hour (g/hr) for the alternative work practice. The EPA is allowing the federal alternative work practice for federal LDAR regulations in 40 CFR Parts 60, 61, 63, and 65 down to the 500 ppmv leak threshold, which is equivalent to the 500 ppmv specified for most components in Division 3, and is significantly more stringent than the 10,000 ppmv specified for Division 2 and for pump seals and compressor seals in Division 3. The Chapter 115 alternative work practice is based on the same instrument specifications and has the same requirements for determining frequency based on detection sensitivity. Therefore, the commission contends that allowing the Chapter 115 alternative work practice for sources subject to Subchapter D, Divisions 2 and 3 will be at least equivalent to, and in some instances more stringent than, the current work practice in these rules.

*Subchapter H, Division 3*

As discussed elsewhere in this preamble, the HRVOC fugitive emission LDAR rules in Subchapter H, Division 3 were implemented as part of the HGB attainment demonstration for the one-hour ozone NAAQS. The applicable leak definition in Subchapter H, Division 3 under the traditional Method 21 work practice is 500 ppmv. As discussed elsewhere in this preamble, this leak threshold is equivalent to the leak threshold used by the EPA to establish the leak threshold for the federal alternative work practice, and the adopted Chapter 115 alternative work practice incorporates the same specifications of the federal alternative work practice. Therefore, the leak definition in the HRVOC fugitive emission LDAR rules is equivalent to the leak definition that the EPA has already allowed in the federal alternative work practice. However, certain control requirements in the HRVOC fugitive rules are not tied specifically to the leak definition. For example, §115.782(b)(1) requires that a first attempt to repair a leak detected over 10,000 ppmv is required within one business day, and the leak must be repaired no later than seven calendar days

after the leak is detected. Leaks that are 10,000 ppmv or less are subject to a less stringent first attempt requirement of within five calendar days and must be repaired no later than 15 calendar days after the leak is detected. As discussed elsewhere in this preamble, optical gas imaging instruments are not capable of determining the concentration of the leak; therefore, an owner or operator using the alternative work practice would not be capable of determining whether a leak is greater than the 10,000 ppmv threshold in §115.782(b)(1). This rapid repair time for leaks larger than 10,000 ppmv is one requirement that makes the HRVOC rules more effective than traditional LDAR regulations. In order to ensure there is no potential backsliding on this and similar requirements, the amendments to the HRVOC fugitive rules in Division 3 specify that the owner or operator must comply with the more stringent repair requirement unless the owner or operator performs a Method 21 test to demonstrate the leak concentration is less than the threshold specified in the rule. Additional detail regarding these specific requirements of the HRVOC fugitive rules is provided in the SECTION BY SECTION DISCUSSION portion of this preamble.

Another component of the HRVOC fugitive rules designed to improve effectiveness of the LDAR programs is the third-party audits required by §115.788. The commission chose to retain the third-party audit requirement for sites using the Chapter 115 alternative work practice. As discussed in the SECTION BY SECTION DISCUSSION portion of this preamble, the third-party audit field survey and data review requirements are modified to account for the difference between the work practices. However, whether the site is using the Method 21 traditional work practice or the Chapter 115 alternative work practice, the intent of the third-party audit is fundamentally the same: to help ensure effective implementation of the work practice. The commission contends that allowing the Chapter 115 alternative work practice for sources subject to Subchapter H, Division 3 and retaining the specific requirements that make the

HRVOC rules more effective than traditional LDAR regulations is at least equivalent to the current work practice in these rules.

#### SECTION BY SECTION DISCUSSION

In addition to the adopted amendments and new sections associated with the rulemaking for the Chapter 115 alternative work practice, various stylistic non-substantive changes are included to update rule language to current Texas Register style and format requirements. Such changes include appropriate and consistent use of acronyms, section references, rule structure, and certain terminology. These changes are non-substantive and generally are not specifically discussed in this preamble.

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

#### *DIVISION 2, FUGITIVE EMISSION CONTROL IN PETROLEUM REFINERIES IN GREGG, NUECES, AND VICTORIA COUNTIES*

##### *Section 115.322, Control Requirements*

The commission adopts amended paragraph (1) to specify that if the owner or operator elects to use the alternative work practice in adopted new §115.358, the definition of a leak for the purposes of §115.322(1) is the definition in §115.358. In addition, the adopted new language in paragraph (1) also specifies that any leak detected from a component subject to the division is still considered to be a leak for the purposes of paragraph (1) even if the owner or operator did not specifically select the component for monitoring using the alternative work practice. This additional provision ensures that any leaks detected through the alternative work practice on components subject to Subchapter D, Division 2 will be



repaired in a timely manner consistent with the rule requirements. This language is consistent with the requirement of the alternative work practice in 40 CFR §60.18(h)(2) that any leak detected using the alternative work practice must be identified for repair as required in the applicable federal subpart.

The adopted amendment to paragraph (2) allows owners or operators that elect to use the alternative work practice to use either the alternative work practice or the normal monitoring method required by the division (e.g., Method 21) to verify that the component has been repaired. Finally, the adopted amendment to paragraph (5) specifies that if the owner or operator chooses to use the alternative work practice to satisfy the monitoring option for components in liquid service under paragraph (5), then the frequency of monitoring must be as specified in adopted new §115.358.

*Section 115.323, Alternate Control Requirements*

The commission adopts amended §115.323 to add a new paragraph (3) to allow owners or operators of a site subject to Subchapter D, Division 2 to use the alternative work practice in adopted new §115.358 as an alternative to hydrocarbon analyzer monitoring.

*Section 115.324, Inspection Requirements*

The adopted changes to §115.324 add a new paragraph (8) to specify additional provisions that apply if the owner or operator elects to use the alternative work practice in §115.358. Adopted new subparagraph (A) requires that the frequency of monitoring when using the alternative work practice must be as specified in §115.358, except as specified in adopted new subparagraph (C). Adopted new subparagraph (B) prohibits the use of the alternative monitoring schedule in §115.324(7) for any components monitored according to the alternative work practice. Adopted new subparagraph (C) specifies that if the owner or

operator uses the alternative work practice to conduct the monitoring required for relief valves under §115.324(5), the 24-hour time limitation in §115.324(5) still applies. The commission also adopts a new subparagraph (D) that specifies if the executive director determines there are an excessive number of leaks in a given area of the refinery where the alternative work practice is used, the executive director may require an increase in the frequency of the monitoring under the alternative work practice. The executive director already has this discretion for the normal Method 21 work practice under existing §115.324(7)(B), and the adopted new subparagraph (D) ensures that the executive director has this same discretion under the alternative work practice.

*Section 115.325, Testing Requirements*

The adopted changes to §115.325 include updating the reference to Method 21 in paragraph (1) to the current version of this method and to reference the current appendix citation used by the EPA, 40 CFR Part 60, Appendix A-7; and removing the version number from American Society for Testing and Materials (ASTM) Test Method D323 in paragraph (2) to be consistent with other ASTM test method references in this chapter. The commission also adopts a new paragraph (3) to specify that the alternative work practice in §115.358 is an approved method for the purposes of this division. The existing paragraph (3), regarding minor modifications to the test methods, is renumbered as paragraph (4).

*Section 115.326, Recordkeeping Requirements*

The commission adopts amended §115.326 to incorporate recordkeeping requirements for owners or operators using the alternative work practice. The adopted changes to paragraph (1) require the owner or operator to update and resubmit the monitoring plan if the owner or operator elects to use the alternative work practice. Adopted new subparagraphs (A) and (B) require the updated plan to identify the units

being monitored according to the alternative work practice and include the frequency of monitoring used for the alternative work practice. Adopted changes to paragraph (2) include specifying that if the owner or operator elects to use the alternative work practice in §115.358, then the log required under paragraph (2) must include all leaks detected using the alternative work practice. Subparagraph (E) is amended to specify that the results of monitoring for components monitored according to the alternative work practice must be maintained according to adopted new paragraph (4). Subparagraph (F), regarding the records of the calibration of the monitoring equipment, is amended to clarify that records of the daily instrument check for the alternative work practice must be maintained according to adopted new paragraph (4). The adopted amendment to subparagraph (I) adds the alternative work practice in §115.358 to the list identifying which method was used to detect the leak.

The commission adopts new paragraph (4) to include specific additional recordkeeping requirements if the owner or operator elects to use the alternative work practice in §115.358 for compliance with the division. Except where noted in this preamble, these recordkeeping requirements mirror the recordkeeping requirements in the federal alternative work practice in 40 CFR §60.18. Adopted new subparagraph (A) requires the owner or operator to maintain a list of each component that is monitored according to the alternative work practice. Adopted new subparagraph (B) requires records of the detection sensitivity level selected from the table in §115.358. Adopted new subparagraphs (C) and (D) require records of the analysis used to determine the component in contact with lowest mass fraction of detectable chemicals and the technical basis for the mass fraction of the detectable chemicals, both of which are required for the daily instrument check procedure referenced in §115.358. Records of the daily instrument check are required under adopted new subparagraph (E). Clause (i) requires records of the flow meter reading of the leak used in the daily instrument check and the distance from which the leak

was imaged. Clause (ii) requires a video record with a date and time stamp of the daily instrument check for each configuration of the optical gas imaging instrument as well as each operator of the instrument. Clause (iii) requires records of the names of each operator performing the daily instrument check. The adopted requirements to maintain records of the names of the operators performing the daily instrument check and the video records for each operator performing the check is in addition to the recordkeeping specified for the alternative work practice in 40 CFR §60.18. As discussed elsewhere in this preamble, this requirement to link the operator of the optical gas imaging instrument to the monitoring work and instrument quality assurance procedures is necessary to ensure proper enforcement and effectiveness of the Chapter 115 alternative work practice.

The commission adopts new subparagraph (F) to require recordkeeping of the leak survey results from using the alternative work practice in §115.358. Adopted new clause (i) requires that a video record be used to document the leak survey results and the results of the recheck to verify the leak has been repaired, if the alternative work practice was used to perform this recheck. The adopted language regarding the video results of the recheck is more specific than the video recordkeeping requirements in 40 CFR §60.18(i)(4); however, this requirement is necessary to document that the leak has been repaired as required by the rule and is consistent with the existing requirement in §115.326(2)(G)(iv) for the Method 21 work practice. Adopted subclause (I) specifies that the video records must include a time and date stamp for each monitoring event and adopted subclause (II) requires that each component must be identifiable in the video records. These requirements are consistent with the recordkeeping requirements for the alternative work practice in 40 CFR §60.18. The EPA did not provide any specific guidance on how to demonstrate compliance with the requirement in subclause (II) that each component must be identifiable in the video records. The language that the EPA used in 40 CFR §60.18(i)(4)(vi) is that the

"video record can be used to meet the recordkeeping requirements of the applicable subparts if each piece of regulated equipment selected for this work practice can be identified in the video record" (December 22, 2008, issue of the *Federal Register* (73 FR 78210)). The commission does not expect that this requirement is intended to imply that each component must be flagged or marked in the video record, but rather that each component the alternative work practice is used for must be clearly visible in the video record and that the owner or operator must be capable of specifically identifying these components in the video record when requested. In addition, the commission adopted a new clause (ii) to require records of the names of each operator performing the leak survey for each event. As discussed elsewhere in this preamble, the commission adopted this additional recordkeeping requirement to link the operator of the optical gas imaging instrument to the monitoring work to ensure proper enforcement and effectiveness of the Chapter 115 alternative work practice.

Adopted new subparagraph (G) includes recordkeeping requirements for the annual Method 21 screening required by §115.358(f). These recordkeeping requirements include the equipment screened, the concentration measured according to Method 21, the date and time of the Method 21 screening, and the calibrations required by Method 21. These adopted recordkeeping requirements are similar to the recordkeeping requirements specified by the EPA in 40 CFR §60.18(i)(4)(vii) (December 22, 2008, issue of the *Federal Register* (73 FR 78211)).

Adopted new subparagraph (H) requires that the owner or operator maintain records of the training required by adopted new §115.358(h), which is a requirement not included in the alternative work practice in 40 CFR §60.18. As discussed elsewhere in this preamble, the commission adopted training requirements to ensure that operators performing the alternative work practice have an adequate

understanding of the principles of optical gas imaging to ensure effective use of the alternative work practice. The commission also adopted a new subparagraph (I) to require the owner or operator to maintain records of the optical gas imaging instrument manufacturer's operating parameters. While this recordkeeping requirement is not included in the alternative work practice in 40 CFR §60.18, maintaining the records of these parameters is necessary for commission investigators to verify that the owner or operator is actually operating the instrument in accordance with the manufacturer's operating parameters as required by adopted new §115.358(d) and 40 CFR §60.18(i)(3), and to ensure proper enforcement of the Chapter 115 alternative work practice.

Finally, the commission renumbers the existing paragraph (4), regarding the retention schedule and availability of records, to adopted paragraph (5). Any additional records required for compliance with the alternative work practice is subject to the five-year retention schedule in paragraph (5) and must be made available to authorized representatives of the executive director, EPA, or local air pollution control agencies with jurisdiction.

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

*Section 115.352, Control Requirements*

The commission adopts amendments to paragraph (1) to add a new subparagraph (C) that specifies if the owner or operator elects to use the alternative work practice in adopted new §115.358, the definition of a leak for the purposes of §115.352(1) is the definition in §115.358. In addition, the adopted new language in subparagraph (C) also specifies that any leak detected from a component subject to the division is still

considered to be a leak for the purposes of paragraph (1) even if the owner or operator did not specifically select the component for monitoring using the alternative work practice. This additional provision ensures that any leaks detected through the alternative work practice on components subject to Subchapter D, Division 3 will be repaired in a timely manner consistent with the rule requirements. This language is consistent with the requirement of the alternative work practice in 40 CFR §60.18(h)(2) that requires that any leak detected using the alternative work practice must be identified for repair as required in the applicable federal subpart. The adopted amendment to paragraph (2) allows owners or operators that elect to use the alternative work practice to use either the alternative work practice or the normal monitoring method required by the division (e.g., Method 21) to verify that the leak has been repaired. The commission also adopts amendments to paragraphs (7) and (9) to update references to §115.356(4), which is renumbered to §115.356(5).

*Section 115.353, Alternate Control Requirements*

The commission adopts amendments to §115.353 to incorporate the existing language in §115.353 into a new subsection (a). The adopted changes also add a new subsection (b) to allow owners or operators of a site subject to Subchapter D, Division 3 to use the alternative work practice in adopted new §115.358 as an alternative to hydrocarbon analyzer monitoring.

*Section 115.354, Monitoring and Inspection Requirements*

The commission adopts minor revisions to §115.354(1)(C) and (3) to update references. The adopted amendment to paragraph (1)(C) updates the reference to §115.356(4) to be consistent with renumbering of that section. The commission also adopts revisions to paragraph (3) to update the reference for Method 21 to the current appendix citation used by the EPA (40 CFR Part 60, Appendix A-7).

The commission adopts amendments to paragraph (10) to clarify that the requirement to record screening concentrations and to use a default pegged value of 100,000 ppmv for pegged readings does not apply if the owner or operator is using the alternative work practice in §115.358 unless a corresponding measurement with a hydrocarbon gas analyzer was performed with the optical gas imaging instrument.

The commission adopts a new paragraph (13) to list specific provisions that apply if the owner or operator elects to use the alternative work practice in §115.358 for compliance with the division. Adopted new subparagraph (A) requires that the frequency for monitoring using the alternative work practice must be as specified in §115.358 and adopted new subparagraph (B) prohibits the alternative monitoring schedules in paragraphs (7) and (8) for any components that the owner or operator is using the alternative work practice. Adopted new subparagraph (C) specifies that if the owner or operator uses the alternative work practice to satisfy the hydrocarbon gas analyzer monitoring requirements in paragraphs (4) and (11), then the time limitations in those paragraphs continue to apply, i.e., the monitoring under paragraph (4) must be performed within 24 hours and the monitoring under paragraph (11) must be performed within 30 days.

The commission adopts a new subparagraph (D) regarding components considered difficult to monitor under the alternative work practice. Subparagraph (D) specifies that if a component is within a class of equipment that the owner or operator is using the alternative work practice for and the component meets all other conditions to be considered acceptable for using the alternative work practice in §115.358, then the component can only be classified as difficult to monitor if using the alternative work practice would cause the operator of the optical gas imaging instrument to be elevated more than two meters above a



permanent support surface or require a confined space entry permit in order to image the component.

Because the alternative work practice uses remote sensing optical gas imaging instruments, the standard of what is considered difficult to monitor is different if the owner or operator is using the alternative work practice. Components may still be classified as difficult to monitor under the adopted rule if the operator would be required to be elevated more than two meters or require a confined space entry permit to be within the range of the optical gas imaging instrument that is demonstrated by the daily instrument check. If a component is considered difficult to monitor under the alternative work practice, the owner or operator may use either Method 21 or the alternative work practice to perform the monitoring at the normal frequency for difficult-to-monitor components under paragraph (1), i.e., annually. If the owner or operator does classify any components as difficult to monitor under the alternative work practice, those components must be identified as such in the list of difficult-to-monitor components required under §115.352(7). The intent of this provision is to acknowledge that components traditionally difficult to monitor under the normal Method 21 work practice may be easier to monitor under the alternative work practice using remote sensing optical gas imaging instruments.

The commission adopts a new subparagraph (E) to specify that if the owner or operator elects to use the alternative work practice, components may still be classified as unsafe to monitor as allowed by paragraph (1)(C). Use of the alternative work practice may not necessarily reduce the risk to monitoring personnel; therefore, the commission is not adopting any rule language that might set specific requirements for determining components to be unsafe to monitor under the alternative work practice. If a component is classified as unsafe to monitor under the alternative work practice, the provisions in paragraph (1)(C) regarding monitoring frequency, maintaining a list of unsafe-to-monitor components, and monitoring during safe-to-monitor times would continue to apply. However, the owner or operator

may choose to use the alternative work practice to satisfy the monitoring requirement for unsafe-to-monitor components as specified in paragraph (1)(C) using either Method 21 or the alternative work practice.

The commission also adopts a new subparagraph (F) that specifies that if the executive director determines that there are an excessive number of leaks in a given process area that the alternative work practice is used, then the executive director may require an increase in the frequency of the monitoring under the alternative work practice. The executive director already has this discretion for the normal Method 21 work practice under existing §115.354(6), and the adopted new subparagraph (F) ensures that the executive director has this same discretion under the alternative work practice.

*Section 115.355, Approved Test Methods*

The adopted revisions to §115.355 include updating the reference to Method 21 in paragraph (1) to the current appendix citation used by the EPA, 40 CFR Part 60, Appendix A-7; and removing the version number from ASTM Test Method D323 in paragraph (2) to be consistent with other test method references in this chapter. The commission also adopts new paragraph (3) to specify that the alternative work practice in §115.358 is an approved method for the purposes of the division. The existing paragraphs (3) and (4), regarding minor modifications to the test methods and equivalent determinations for vapor pressure data, are renumbered as paragraphs (4) and (5), respectively.

*Section 115.356, Recordkeeping Requirements*

The commission adopts amendments to §115.356 to revise the language regarding maintaining records either electronically or in hard copy form to specify that any video records necessary for compliance with

the alternative work practice must be maintained electronically. The adopted changes to paragraph (2)(E)(i) revise the language to update the reference to Method 21 to the current appendix citation used by the EPA, 40 CFR Part 60, Appendix A-7, and add the alternative work practice in §115.358 to the list of methods in paragraph (2)(E)(i).

The commission adopts a new paragraph (4) to include specific additional recordkeeping requirements if the owner or operator elects to use the alternative work practice in §115.358 for compliance with the division. Except where noted in this preamble, these recordkeeping requirements mirror the recordkeeping requirement in the federal alternative work practice in 40 CFR §60.18. Adopted new subparagraph (A) requires the owner or operator to maintain a list of all components that are monitored according to the alternative work practice. Adopted new subparagraph (B) requires records of the detection sensitivity level selected from the table in §115.358. Adopted new subparagraphs (C) and (D) require records of the analysis used to determine the component in contact with the lowest mass fraction of detectable chemicals and the technical basis for the mass fraction of the detectable chemicals, respectively, both of which are required for the daily instrument check procedure referenced in §115.358. Records of the daily instrument check are required under adopted new subparagraph (E). Paragraph (4)(E)(i) requires records of the flow meter reading of the leak used in the daily instrument check and the distance from which the leak was imaged. Paragraph (4)(E)(ii) requires a video record with a date and time stamp of the daily instrument check for each configuration of the optical gas imaging instrument as well as each operator of the instrument used that day. Paragraph (4)(E)(iii) requires records of the names of each operator performing the daily instrument check. The adopted requirements to maintain records of the names of the operators performing the daily instrument check and the video records for each operator performing the check is in addition to the recordkeeping specified for the alternative work practice in 40

CFR §60.18. As discussed elsewhere in this preamble, this requirement to link the operator of the optical gas imaging instrument to the monitoring work and instrument quality assurance procedures is necessary to ensure proper enforcement and effectiveness of the Chapter 115 alternative work practice.

The commission adopts a new subparagraph (F) to require records of the leak survey using the alternative work practice in §115.358. Adopted new clause (i) requires that a video record be used to document the leak survey and the results of the recheck to verify the leak has been repaired, if the alternative work practice was used to perform this recheck. The adopted language regarding the video results of the recheck is more specific than the video recordkeeping requirements in 40 CFR §60.18(i)(4); however, this is necessary to document that the leak has been repaired as required by the rule and is consistent with the existing requirement in §115.356(2)(E)(v) for the Method 21 work practice. Adopted new subclause (I) specifies that the video record must include a time and date stamp for each monitoring event. The commission uses the phrase *monitoring event* because there are multiple reasons why a component must be monitored, including initial survey and recheck after repair. Each is a separate event requiring a record. Adopted new subclause (II) requires that each component must be identifiable in the video record. In addition, the commission adopts a new clause (ii) to keep records of the name of each operator performing the leak survey for each event.

Adopted new subparagraph (G) includes recordkeeping requirements for the annual Method 21 screening required by §115.358(f). These recordkeeping requirements include the equipment screened, the concentration measured according to Method 21, the date and time of the Method 21 screening, and the calibrations required by Method 21. These adopted recordkeeping requirements are similar to the

recordkeeping requirements specified by the EPA in 40 CFR §60.18(i)(4)(vii) (December 22, 2008, issue of the *Federal Register* (73 FR 78211)).

Adopted new subparagraph (H) requires that the owner or operator maintain records of the training required by adopted new §115.358(h), which is a requirement not included in the alternative work practice in 40 CFR §60.18. As discussed elsewhere in this preamble, the commission adopts training requirements to ensure that operators performing the alternative work practice have an adequate understanding of the principles of optical gas imaging to ensure effective use of the alternative work practice. The commission also adopts a new subparagraph (I) to require the owner or operator to maintain records of the optical gas imaging instrument manufacturer's operating parameters. As discussed elsewhere in this preamble, the additional requirement is necessary for commission investigators to verify that the owner or operator is actually operating the instrument in accordance with the manufacturer's operating parameters as required by adopted new §115.358(d) and 40 CFR §60.18(i)(3) to ensure proper enforcement of the Chapter 115 alternative work practice.

Finally, the commission renumbers existing paragraph (4), regarding the retention schedule and availability of records, to paragraph (5). Any additional records required for compliance with the alternative work practice are subject to the five-year retention schedule in paragraph (5) and must be made available to authorized representatives of the executive director, EPA, or local air pollution control agencies with jurisdiction.

*Section 115.357, Exemptions*

The commission adopts changes to paragraph (8) to specify that the exemption in paragraph (8) cannot be claimed for any component that the alternative work practice in §115.358 is used on unless a Method 21 test is also performed to demonstrate that the leak concentration is less than 10,000 ppmv. The component must also continue to be monitored with both the alternative work practice and Method 21 at the frequency required by the alternative work practice. This requirement is necessary because the exemption requires the component be repaired within 15 calendar days if the leak concentration exceeds 10,000 ppmv. As discussed elsewhere in this preamble, optical gas imaging instruments are not currently capable of quantifying emissions. Because the alternative work practice is not able to verify that the leak is below 10,000 ppmv, the component must continue to be monitored according to Method 21 to demonstrate the leak concentration is below 10,000 ppmv in order to qualify for the exemption. The adopted changes to paragraph (8) also revise the language to update the reference to Method 21 to the current appendix citation used by the EPA, 40 CFR Part 60, Appendix A-7.

*Section 115.358, Alternative Work Practice*

The commission adopts new §115.358 to include the specific definitions and general requirements associated with using the alternative work practice under Chapter 115. Adopted new subsection (a) provides the applicability of the section and allows the use of the Chapter 115 alternative work practice for sites subject to Subchapter D, Division 3 or a site subject to any other division of Chapter 115 when that division specifically allows the use of the alternative work practice in §115.358. For the purposes of this rulemaking, the commission is only allowing the alternative work practice under Subchapter D, Divisions 2 and 3, and Subchapter H, Division 3. However, this applicability approach will allow the commission to more easily apply the use of the alternative work practice in other divisions of Chapter 115, if appropriate. The applicability also only allows the use of the alternative work practice for any

components with a leak definition of 500 ppmv or greater, which is consistent with the alternative work practice in 40 CFR §60.18. While the rules included in this rulemaking do not currently have any leak definitions less than 500 ppmv, including this provision makes the Chapter 115 alternative work practice consistent with 40 CFR §60.18 and avoids any potential future issues should the commission adopt a new rule with a leak definition less than 500 ppmv.

Adopted new subsection (b) provides definitions that are specific to the alternative work practice in §115.358. The new terms defined in adopted subsection (b) include *imaging*, *optical gas imaging instrument*, *repair*, and *leak*. The definitions for these terms mirror the definitions in 40 CFR §60.18(g)(3) - (6). The terms *applicable subpart* and *equipment* in 40 CFR §60.18(g)(1) and (2) are not necessary for the purposes of the alternative work practice in Chapter 115 and are not included in this rulemaking.

Adopted new subsection (c) includes the specifications for any optical gas imaging instrument used for the alternative work practice. Under adopted paragraph (1), the commission incorporates by reference the instrument specifications in 40 CFR §60.18(i)(1). Adopted paragraph (2) incorporates by reference the daily instrument check in 40 CFR §60.18(i)(2). In addition, the commission adopts an additional requirement in paragraph (2) that the daily instrument check procedure must be performed by each individual performing imaging using the alternative work practice during that day. While this is not a requirement of the alternative work practice in 40 CFR §60.18, the commission considers the ability of the individual to operate the optical gas imaging instrument to be an integral part of the effectiveness of this technology. The sensitivity of optical gas imaging instruments is affected by various settings on the instrument that the operator must adjust given the specific conditions (e.g., distance, background, etc.). The operator expertise is critical in making these adjustments to find the optimal settings of the

instrument for the given conditions. The alternative work practice adopted by the EPA in 40 CFR §60.18 does not acknowledge this aspect of the technology. Therefore, the commission adopts this requirement to link the daily instrument check to the individuals who perform the alternative work practice as a necessary quality assurance measure to ensure that the personnel using the optical gas imaging instrument have demonstrated the ability to operate the instrument and appropriately make any necessary adjustments.

The commission adopts a new subsection (d) to specify the leak survey procedure for using optical gas imaging instruments to screen components for leaks. The language adopted in subsection (d) is similar to the leak survey procedure described in 40 CFR §60.18(i)(3). Consistent with the procedure in 40 CFR §60.18(i)(3), subsection (d) requires the optical gas imaging instrument to be operated to image every component selected for the alternative work practice in accordance with the instrument manufacturer's operating parameters. While this general requirement to follow the manufacturer's operating parameters does not provide specific procedures for the use of optical gas imaging instruments and may raise concerns regarding enforceability, as discussed elsewhere in this preamble, operators of optical gas imaging instruments must adjust the instrument given the specific conditions at the time when imaging a component. Therefore, prescriptive procedures for the operation of optical gas imaging instruments would likely be an impediment to the proper use of the technology. Consistent with the alternative work practice in 40 CFR §60.18, adopted subsection (d) requires that all emissions imaged by the optical gas imaging instrument are considered to be leaks and subject to the repair requirements of the applicable division. Adopted subsection (d) also requires that all emissions visible to the naked eye during the leak survey are also considered to be leaks and subject to repair, which is also consistent with the alternative work practice in 40 CFR §60.18. While not specifically included in 40 CFR §60.18, subsection (d) also



specifies that the owner or operator shall not image a component during the leak survey at a distance greater than the distance demonstrated by the same instrument operator during the daily instrument check. Distance is a factor for the sensitivity and effectiveness of optical gas imaging instruments and the instrument specifications in 40 CFR §60.18(i)(1)(i) imply this by requiring the instrument to provide "an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check . . ." The commission's intent by specifically requiring this in subsection (d) is to make this expectation clear for the purpose of enforcing the alternative work practice in Chapter 115.

Adopted new subsection (e) specifies the frequency requirements for using the alternative work practice under Chapter 115. The frequencies in the table in paragraph (1) are based on the detection sensitivity level selected; bi-monthly for 60 g/hr, semi-quarterly for 85 g/hr, and monthly for 100 g/hr. These frequencies and detection sensitivity levels match Table 1 in 40 CFR Part 60, Subpart A, for the alternative work practice in 40 CFR §60.18. Monitoring using the alternative work practice must be performed according to the frequency corresponding to the selected detection sensitivity level. Similar to the table in 40 CFR Part 60, the table in §115.358(e)(1) defines the terms *bi-monthly*, *semi-quarterly*, and *monthly*. To provide clarity to the rule, the commission is adopting these terms with more specificity than defined by the EPA. *Bi-monthly* is defined as every other calendar month. *Semi-quarterly* is defined as twice per calendar quarter, but at least 30 days apart. *Monthly* is defined as once per calendar month. Adopted paragraph (2) specifies that alternative monitoring frequencies for good performance (e.g., alternative frequencies if the percent of leakers is less than 2%) are not allowed for the alternative work practice; however, the adopted language allows alternative monitoring frequencies for other purposes when specifically allowed by the applicable division of this chapter. This adopted language deviates

slightly from the alternative work practice in 40 CFR §60.18. The EPA discussed the issue of difficult-to-monitor and unsafe-to-monitor components in response to comments (December 22, 2008, issue of the *Federal Register* (73 FR 78205), and the commission agrees with the EPA that the components that can be considered difficult to monitor or unsafe to monitor may change under the alternative work practice. However, the EPA did not address such issues in the regulation under 40 CFR §60.18(h)(5) and (6). Therefore, the commission adopts the clarifying language in §115.358(e)(2) to make clear that the alternative work practice may be used for certain cases, such as difficult-to-monitor components, if the applicable division of this chapter specifically allows such use.

Consistent with the annual Method 21 requirement in 40 CFR §60.18(h)(7), the commission adopts a new subsection (f) to require annual Method 21 screening for any component monitored according to the alternative work practice. Adopted new §115.358(f) requires that each component monitored with the alternative work practice must be monitored once per calendar year using Method 21 at the leak definition in the applicable division. Similar to the requirement in 40 CFR §60.18(h)(7), subsection (f) allows the owner or operator to select the specific monitoring period (e.g., the first quarter), but subsequent Method 21 monitoring must be performed every 12 months from the initial monitoring period.

The commission also adopts a new subsection (g) to include a notification requirement if the owner or operator elects to use the alternative work practice in adopted new §115.358. This notice requirement is not included in 40 CFR §60.18; however, commission investigators conduct routine LDAR investigations and the notice requirement is necessary to allow investigators to prepare appropriately for the site investigation due to the distinct differences between the standard Method 21 work practice and the alternative work practice in adopted new §115.358. Different monitoring equipment and a different

investigation protocol are needed for a LDAR investigation at a site using the alternative work practice. The initial notice is required to be submitted in writing to the appropriate regional office at least 30 days prior to implementation of the alternative work practice. Adopted new paragraph (1) lists the content requirements of the written notification, including: identification of each unit that the alternative work practice will be used for; the specific categories of components and number of components in those categories that are monitored according to the alternative work practice; and the date that the owner or operator plans to implement the alternative work practice. Adopted new paragraph (2) requires the owner or operator to resubmit the notice within 30 days if use of the alternative work practice is expanded to a different process unit. It is not the commission's intent that the owner or operator be required to resubmit the notification on a component by component basis.

Finally, adopted new subsection (h) includes minimum training requirements for operators of optical gas imaging instruments used for the Chapter 115 alternative work practice. The commission acknowledges that the EPA did not include training requirements in the alternative work practice in 40 CFR §60.18. As discussed elsewhere in this preamble, the experience and ability of the instrument operator is critical to the proper operation and effective use of optical gas imaging instruments. The commission's intent for these initial and on-going training requirements is to provide assurance that operators of optical gas imaging instruments under the alternative work practice have at least basic skills training to properly and effectively use the instruments. Effective use of the alternative work practice may be severely compromised if operators are not adequately trained in the operation of the instrument and in interpreting the image generated by the optical gas imaging instrument. At this time, the commission does not intend to establish a certification program or to require that the training provider be pre-approved by the commission. The adopted rule establishes minimum time requirements for the training, but not specific

details of the training contents. The initial training requirements are included in adopted new paragraph (1), which specifies a minimum of 24 hours of training on the specific make and model of the optical gas imaging instrument before using the instrument for the alternative work practice. This training requirement is based on training already provided by a manufacturer of optical gas imaging instruments. Adopted paragraph (2) requires on-going training for operators and provides two options. Operators could either attend an annual eight-hour refresher training class, or maintain a minimum of 100 hours per year of hands-on experience with the make and model of optical gas imaging instrument used. A log of the operator's operational experience, which can be maintained in any form, is required if the operator selects the option to maintain a minimum 100 hours per year of hands-on experience. The commission had proposed the option to maintain 100 hours of operational experience per calendar year. In response to comments, this option was changed to 100 hours per 12 months because this revision accomplishes the same purpose without the unnecessary constraint that the 100 hours be obtained in each calendar year. The commission is not specifically aware of a training provider with an established eight-hour refresher class; however, the commission does not expect that establishing this annual refresher class would be a significant burden for potential training providers or companies using the alternative work practice. Additionally, the commission is not requiring the training be provided by an independent third party or specifically by the manufacturer of the instrument. Adopted paragraph (3) requires operators to attend a combination update and annual refresher course before they can use a make or model of optical gas imaging instrument on which they have not previously been trained. This requirement, which was added in response to comment, allows operators to be trained on the features of any new camera models that become available without repeating the general material of the 24-hour course.

*DIVISION 3, FUGITIVE EMISSIONS*

*Section 115.781, General Monitoring and Inspection Requirements*

The commission amends §115.781 to incorporate various changes to allow the use of the alternative work practice in §115.358 under the HRVOC fugitive emissions rules. The adopted amendment to subsection (b)(9) specifies that if the owner or operator elects to use the alternative work practice in adopted new §115.358, the definition of a leak is the definition in §115.358. In addition, the adopted new language also specifies that a leak includes any leak detected from a component that is subject to the division even if the owner or operator did not specifically select the component for alternative work practice monitoring. As discussed elsewhere in this preamble, this additional provision ensures that any leaks detected through the alternative work practice on components subject to Subchapter H, Division 3 must be repaired in a timely manner. This provision is consistent with the alternative work practice in 40 CFR §60.18. The commission also amends subsection (b)(10) to specify that the requirement to record monitored screening concentrations or record a default pegged value of 100,000 ppmv does not apply to monitoring using an optical gas imaging instrument under the alternative work practice. This change is necessary because optical gas imaging instruments are not capable of determining screening concentrations.

The commission adopts a new subsection (h) to list specific provisions that apply if the owner or operator elects to use the alternative work practice in §115.358. Adopted new paragraph (1) requires that the frequency for monitoring using the alternative work practice must be as specified in §115.358 and adopted new paragraph (2) prohibits the alternative monitoring schedules in subsection (f) for any components that the owner or operator is using the alternative work practice. Adopted new paragraph (3) specifies that if the owner or operator uses the alternative work practice to satisfy the hydrocarbon gas

analyzer monitoring requirements in subsections (b)(4) or (e), then the time limitations in those paragraphs continue to apply.

The commission adopts new paragraphs (4) and (5) regarding components considered difficult to monitor or unsafe to monitor under the alternative work practice. Paragraph (4) specifies that if a component is within a class of equipment that the owner or operator is monitoring using the alternative work practice and the component meets all other conditions to be considered acceptable for using the alternative work practice in §115.358, then the component can only be classified as difficult to monitor if using the alternative work practice would cause the operator of the optical gas imaging instrument to be elevated more than two meters above a permanent support surface or require a confined space entry permit in order to image the component. This provision is similar to other adopted amendments in Subchapter D, Divisions 2 and 3 regarding difficult-to-monitor and unsafe-to-monitor components under the alternative work practice. Adopted new paragraph (5) specifies that if the owner or operator elects to use the alternative work practice, components may still be classified as unsafe to monitor as allowed by paragraph (7)(A). As discussed elsewhere in this preamble, the intent of these provisions is to acknowledge that components traditionally difficult to monitor under the Method 21 work practice may be easier to monitor under the alternative work practice using remote sensing optical gas imaging instruments but that use of the alternative work practice may not necessarily reduce the risk to monitoring personnel.

In addition, the commission adopts a new paragraph (6) to allow an alternative frequency for performing the annual Method 21 testing required under §115.358(f) for components subject to subsection (b)(3) that are not subject to a Method 21 monitoring requirement under 40 CFR Parts 60, 61, 63, or 65. Adopted

subparagraph (A) requires the owner or operator to perform a Method 21 test to determine the leak concentration for any leak detected using the alternative work practice. The owner or operator is required to perform the Method 21 test within one business day after the leak was detected using the alternative work practice. The rule proposal required this Method 21 test on the same day the leak was detected. In response to comment, the commission changed the requirement because it provides scheduling flexibility and continues to be an acceptable substitute for the annual Method 21 test. Adopted subparagraph (B) only allows the alternative Method 21 monitoring frequencies under paragraph (2) if the percent leaking components for all components selected under the option is less than 2.0%. Adopted subparagraph (C) sets the alternative frequencies for the scheduled Method 21 screening for components that qualify for the option under paragraph (6) to be the same as the existing alternative frequencies under subsection (f). Adopted subparagraph (C) also allows the Method 21 test required under adopted subparagraph (A) to satisfy the regularly scheduled Method 21 test under subparagraph (C). Adopted new subparagraph (D) also requires the owner or operator to include notice of electing this option in the notification required under adopted new §115.358(g). The commission's intent for this provision is to encourage performing a Method 21 test when leaks are detected using the optical gas imaging instruments. As discussed elsewhere in this preamble, optical gas imaging instruments are not capable of quantifying fugitive emissions. Performing a Method 21 test on the leak when it is detected using the alternative work practice provides a basis for quantifying the leak for emissions inventory purposes. While the EPA indicated in the December 22, 2008, issue of the *Federal Register* (73 FR 78207) that the EPA planned to work with stakeholders to develop the necessary tools for quantification under the alternative work practice, the EPA has not provided a timeline for when this guidance will be developed and issued.

The commission recognizes that requiring a Method 21 test on detected leaks in addition to the annual Method 21 test under 40 CFR §60.18(h)(7) presents a significant fiscal disincentive for owners or operators deciding whether to use the alternative work practice; therefore, the commission is not requiring the additional Method 21 test on all detected leaks. Additionally, based on the commission's current delegation for 40 CFR Part 60, the commission cannot relax the annual Method 21 requirement under 40 CFR §60.18(h)(7) for any component that is subject to a Method 21 monitoring requirement under 40 CFR Parts 60, 61, 63, or 65 and for which the owner or operator elects to use the alternative work practice. Therefore, this option is limited to the components listed in §115.781(b)(3) that are not subject to a federal LDAR regulation Method 21 requirement.

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

The commission adopts a new subsection (b)(3) with changes from proposal to specify that for a leak detected from a component, a first attempt to repair must be made within one business day after detecting the leak and the component must be repaired no later than seven calendar days after detection. As discussed elsewhere in this preamble, optical gas imaging instruments are not capable of quantifying emissions. An owner or operator using the alternative work practice would not be able to determine whether a leak is over the 10,000 ppmv trigger for rapid repair times in subsection (b)(1) if the optical gas imaging instrument is the only measuring device used. Therefore, any leaks detected from these components using the alternative work practice must be assumed to be over 10,000 ppmv and subject to the same rapid repairs as subsection (b)(1). The rapid repair times of this provision are an integral part of the HRVOC fugitive emission rules that enhance the overall effectiveness of the rule. This conservative approach ensures that allowing the alternative work practice under Subchapter H, Division 3 does not result in backsliding. The adopted new subsection (b)(3) allows the owner or operator the option to



measure the leak concentration using Method 21 to demonstrate the leak is not over 10,000 ppmv, provided the Method 21 test is performed no later than the business day after the leak was detected using the alternative work practice. If the Method 21 test demonstrates the leak is 10,000 ppmv or less, then the standard repair times in subsection (b)(2) apply. In response to comments, new subsection (b)(3) excludes those components classified as difficult to monitor using Method 21 and not classified as difficult to monitor using the alternative work practice in §115.358 that the owner or operator monitors with the alternative work practice.

In response to comments received, the commission adopts new subsection (b)(4) requiring repair of components monitored using the alternative work practice that are classified as difficult to monitor using Method 21, but not difficult to monitor using the alternative work practice to be repaired on the same schedule as leaks measured under 10,000 ppmv. This additional time is necessary for these components because additional repair time is required for the same accessibility reasons that caused the component to be classified as difficult to monitor using Method 21. Since the components involved are measured according to the alternative work practice frequencies in §115.358(e), the additional repair time is more than offset by the increase in monitoring frequency over that required for components classified as difficult to monitor using Method 21.

While not related to incorporating the alternative work practice into Chapter 115, the commission restructures and clarifies specific parts of §115.782(c)(1)(B) to update the rule language structure to current Texas Register and agency format requirements. Additional language is added to subparagraph (B) to clarify that there are three different options under subparagraph (B): meet the conditions of both clauses (i) and (ii); meet the conditions of clause (iii); or meet the conditions of clause (iv). Minor non-

substantive language changes are adopted in clauses (i) - (iv) to improve the readability of the rule language and do not change the meaning or requirements of the rule. In addition, to account for use of the alternative work practice under the rule, the commission amends §115.782(c)(1)(B)(i)(II) to require the owner or operator to use the 100,000 ppmv pegged emission rate values in Tables 2-13 and 2-14 in Section 2.3.3 of the EPA guidance document "Protocol for Equipment Leak Emission Estimates" for any leak detected using the alternative work practice that a corresponding Method 21 test is not performed on that specific leak. This change is necessary because, as discussed elsewhere in this preamble, optical gas imaging instruments are not capable of quantifying a leak. Therefore, the rule requires the owner or operator to use the pegged rates in the EPA guidance document unless a Method 21 test was performed on that same leak to determine the leak concentration for use in the correlation equations required under subclause (II).

The commission moves the existing language in clause (iii) regarding the time restrictions for extraordinary efforts to new subclause (I) and (II). The time restrictions for leaks detected over 10,000 ppmv are moved to new subclause (I), and the restrictions for all other leaks are moved to new subclause (II). In addition, the commission adopts a new subclause (III) to establish the time restrictions for extraordinary efforts on leaks detected using the alternative work practice. Adopted new subclause (III) sets the restrictions for leaks detected using the alternative work practice the same as leaks over 10,000 ppmv. If the owner or operator performs a Method 21 test and demonstrates the leak was 10,000 ppmv or less, then the time restrictions are the same as in subclause (II) for leaks not over 10,000 ppmv. As discussed elsewhere in this preamble, this conservative approach to incorporating the alternative work practice into §115.782 is necessary to ensure that the use of the alternative work practice does not result in backsliding. The commission had proposed to require the Method 21 test to occur on the same day that

the leak was detected. The adopted rule requires the Method 21 test to occur within one business day. This change does not affect the extraordinary effort repair deadline, which remains at 22 or 30 days, and provides reasonable flexibility for affected owners or operators without affecting the time that the component continue to leak.

While not related to incorporating the alternative work practice into Chapter 115, the commission adopts changes to restructure and clarify specific parts of §115.782(c)(2)(A) to update the rule language structure to current *Texas Register* and agency format requirements. Additional language is added to paragraph (2) to clarify that the owner or operator may choose to meet either the conditions of subparagraph (A) or (B). Minor non-substantive language changes are adopted in clauses (i) and (ii) to improve the readability of the rule language and do not change the meaning or requirements of the rule.

In addition, the commission moves the existing language in clause (i) regarding the time restrictions for extraordinary efforts to new subclauses (I) and (II). The time restrictions for leaks detected over 10,000 ppmv are moved to new subclause (I), and the restrictions for all other leaks are moved to new subclause (II). The commission adopts a new subclause (III) to establish the time restrictions for extraordinary efforts on leaks detected using the alternative work practice. Adopted new subclause (III) sets the restrictions for leaks detected using the alternative work practice the same as leaks over 10,000 ppmv, unless the owner or operator performs a Method 21 test and demonstrates the leak was 10,000 ppmv or less, and then the time restrictions are the same as in subclause (II). As discussed elsewhere in this preamble, this change is necessary to ensure that the use of the alternative work practice does not result in backsliding under the rule. The commission had proposed to require the Method 21 test to occur on the same day that the leak was detected. The adopted rule requires the Method 21 test to occur within one

business day. This change does not affect the extraordinary effort repair deadline, which remains at 14 or 30 days, and provides reasonable flexibility for affected owners or operators without affecting the time that the component continue to leak.

The commission adopts a new subsection (d) to clarify when a leak is considered repaired. Adopted new paragraph (1) specifies that for any component that the alternative work practice is used on, the component is considered repaired when demonstrated to no longer have a leak, after adjustments or alterations to the component, by either using an optical gas imaging instrument as specified in §115.358 or Method 21 at the leak definition specified in §115.781(b)(9). This adopted provision allows the owner or operator to verify that the leak has been repaired with either the alternative work practice in §115.358 or Method 21, which is consistent with the approach in 40 CFR §60.18. Adopted new paragraph (2) specifies that for all other components, the leak is considered repaired when demonstrated to no longer have a leak, after adjustments or alterations, by the normal monitoring method required by the division.

*Section 115.784, Alternate Control Requirements*

The commission adopts a new §115.784, relating to Alternate Control Requirements, to provide for alternate means of control. Adopted new subsection (a) specifies that the executive director may approve alternate methods of demonstrating and documenting compliance with the control requirements or exemption criteria consistent with §115.910. While this provision is not specifically necessary for incorporating the alternative work practice in Subchapter H, Division 3, the additional provision clarifies that the alternate means of control provision in §115.910 are an available option under the division.

Adopted new subsection (b) will allow owners or operators of a site subject to Subchapter H, Division 3

to use the alternative work practice in adopted new §115.358 as an alternative to hydrocarbon analyzer monitoring.

*Section 115.786, Recordkeeping Requirements*

The commission amends subsection (c), regarding the reports required to be submitted to the Houston regional office. The adopted amendment to paragraph (3) clarifies that the information required under paragraph (3) is only required if a hydrocarbon gas analyzer was used to determine the leak. An adopted new paragraph (4) requires that if the alternative work practice was used, then the report must indicate that the leak was determined according to the alternative work practice and the date that the leak was detected. The existing paragraphs (4) and (5) are renumbered to paragraphs (5) and (6), respectively.

The commission adopts a new subsection (f) to include specific additional recordkeeping requirements if the owner or operator elects to use the alternative work practice in §115.358. Except where noted in this preamble, these recordkeeping requirements mirror the recordkeeping requirement in the federal alternative work practice in 40 CFR §60.18. Adopted new paragraph (1) requires the owner or operator to maintain a list of each component that is monitored according to the alternative work practice. Adopted new paragraph (2) requires records of the detection sensitivity level selected from the table in §115.358. Adopted new paragraphs (3) and (4) require records of the analysis used to determine the component in contact with lowest mass fraction of detectable chemicals and the technical basis for the mass fraction of the detectable chemicals, respectively, both of which are required for the daily instrument check procedure referenced in §115.358. Records of the daily instrument check are required under adopted new paragraph (5). Subparagraph (A) requires records of the distance and flow meter reading that the leak was imaged for the daily instrument check. Subparagraph (B) requires a video record with a date and time

stamp of the daily instrument check for each configuration of the optical gas imaging instrument as well as the name of each operator of the instrument used that day. Subparagraph (C) requires records of the name of each operator performing the daily instrument check. As discussed elsewhere in this preamble, this requirement to link the operator of the optical gas imaging instrument to the monitoring work and instrument quality assurance procedures is necessary to ensure proper enforcement and effectiveness of the Chapter 115 alternative work practice.

The commission adopts a new paragraph (6) to require records of the leak survey results from using the alternative work practice in §115.358. Adopted new subparagraph (A) requires that a video record be used to document the leak survey results and the results of the recheck to verify the leak has been repaired, if the alternative work practice was used to perform this recheck. The adopted language regarding the video results of the recheck is more specific than the video recordkeeping requirements in 40 CFR §60.18(i)(4); however, this is necessary to document that the leak has been repaired as required by the rule. Clause (i) specifies that the video record must include a time and date stamp for each monitoring event and clause (ii) requires that each component must be identifiable in the video record. In addition, the commission adopts a new subparagraph (B) to require records of the names of each operator performing the leak survey for each event.

Adopted new paragraph (7) includes recordkeeping requirements for the annual Method 21 screening required by §115.358(f). These recordkeeping requirements include the components screened, the concentration measured according to Method 21, the date and time of the Method 21 screening, and the calibrations required by Method 21. These recordkeeping requirements are similar to the recordkeeping

requirements specified by the EPA in 40 CFR §60.18(i)(4)(vii) (December 22, 2008, issue of the *Federal Register* (73 FR 78211)).

Adopted new paragraph (8) requires that the owner or operator maintain records of the training required by adopted new §115.358(h). As discussed elsewhere in this preamble, the commission is adopting training requirements to ensure that operators performing the alternative work practice have an adequate understanding of the principles of optical gas imaging to ensure effective use of the alternative work practice.

The commission adopts a new paragraph (9) to include recordkeeping if the owner or operator elects to use the alternative frequencies for the annual Method 21 allowed under adopted new §115.781(h)(6). As discussed elsewhere in this preamble, the commission is adopting an alternative schedule for performing the annual Method 21 for the specific components subject to §115.781(b)(3) that are monitored according to the Chapter 115 alternative work practice but are not subject to a federal LDAR regulation in 40 CFR Parts 60, 61, 63, or 65. The adopted recordkeeping requirements under subparagraphs (A) and (B) for this option include maintaining a list of the components included in the alternative schedule and the percent leaking components for the specific population of components included in the alternative schedule.

The commission also adopts a new paragraph (10) to require the owner or operator to maintain records of the optical gas imaging instrument manufacturer's operating parameters. As discussed elsewhere in this preamble, the additional requirement is necessary for commission investigators to verify that the owner or operator is actually operating the instrument in accordance with the manufacturer's operating parameters

as required by adopted new §115.358(d) and 40 CFR §60.18(i)(3) to ensure proper enforcement of the Chapter 115 alternative work practice.

Finally, the commission moves the existing subsection (f), regarding the records retention schedule and availability of records, to subsection (g).

*Section 115.787, Exemptions*

The commission adopts minor revisions to §115.787. Subsection (a) is revised to correct the reference to §115.786(f), which is re-lettered to §115.786(g). Additionally, the commission revises §115.787(g), regarding the exemption from the third-party audit requirements of §115.788, to change the exemption language from *100 components* to *100 valves*. The audit provisions in §115.788 are specific to valves in HRVOC service. It was not the commission's intent that sites with less than 100 valves in HRVOC service be subject to the audit requirements of §115.788. The commission does not consider this change substantive or backsliding since this change is consistent with the commission's original intent for the third-party audit requirement.

*Section 115.788, Audit Provisions*

The commission adopts §115.788 to incorporate provisions for the alternative work practice in §115.358. The commission is retaining the third-party audit requirement for sites that are using the alternative work practice on valves in HRVOC service. The intent of the third-party audit is to require independent third-party verification that the owner or operator is performing the leak detection procedures as required by the rule. This third-party verification enhances the effectiveness of the facility's LDAR program by identifying issues with the facility's normal monitoring practice and enables the owner or operator to take



corrective action. The third-party audit is equally beneficial when the alternative work practice is used. Additionally, removing the third-party audit requirements for sites using the alternative work practice may be viewed by the EPA as backsliding. The adopted rule retains the third-party audit requirement; however, the audit must be performed in the same manner as the procedure used by the owner or operator of the site. Using a Method 21 audit field survey to verify the company's alternative work practice results, or alternatively, using the alternative work practice to verify the company's Method 21 results, would not serve the intended purpose of the third-party audit. Therefore, the commission adopts the following revisions to account for use of the alternative work practice in the audit provisions in §115.788. The commission amends subsection (a)(2)(D) with changes from proposal to prohibit the use of the alternative work practice in §115.358 by the independent third-party organization if the normal monitoring method for valves in HRVOC service is Method 21. The change clarifies that the audit must only use the monitoring method that is used on the majority of the components during the monitoring period. The commission also clarifies §115.788(a)(2)(D) by specifying that in mixed measurement situations, the provisions of §115.788(h)(3) apply and all valves audited must be monitored and audited by the same method. The commission also adopts amendments to subsection (c) to specify that the notification required under subsection (c) must identify whether the audit will be conducted using Method 21 or the alternative work practice in §115.358. The adopted amendment to subsection (e) specifies that if the independent third-party audit results indicate deficiencies in the implementation of Method 21 or in the implementation of the alternative work practice in §115.358, the owner or operator shall submit a corrective action plan with the audit report to the TCEQ's Houston regional office.

The commission adopts a new subsection (h) to set specific requirements for the third-party audit if the owner or operator is using the alternative work practice for valves in HRVOC service. Adopted new

paragraph (1) requires that the field survey be conducted as specified in §115.788(a)(2), except that the independent third-party organization shall perform the field survey according to the alternative work practice in §115.358. Adopted new paragraph (2) establishes different criteria for the data review required in §115.788(a)(3) because the current criteria are specific to the implementation of Method 21 and will not have any applicability under the alternative work practice. Under adopted paragraph (2), the independent third-party organization conducts a review of all data and video generated by the monitoring personnel in the previous monitoring interval specified in §115.358. Adopted subparagraph (A) requires a review of the records to verify that: 1) the optical gas imaging instrument meets the requirements in §115.358; 2) the daily instrument check was performed as required in §115.358; and 3) the monitoring personnel have satisfied the training requirements. Adopted new subparagraph (B) also requires the review to include identification of any: 1) instances that components were imaged at a distance greater than demonstrated during the daily instrument check; 2) instances that the optical gas imaging instrument was not operated in accordance with the manufacturer's operating parameters; and 3) leaking components in the video records that were not identified as leaking by the routine monitoring personnel. Adopted new subparagraph (C) replaces the report content requirements in §115.788(a)(3)(A) and (B) with the third-party organization's review based on the requirements of new §115.788(h)(2)(A) and (B).

While the commission expects that owners or operators implementing the alternative work practice likely to attempt to use the alternative work practice as widely as possible to be cost effective, there is a possibility that a site may have some valves in HRVOC service monitored according to Method 21 and some according to the alternative work practice. Therefore, the commission adopts a new §115.788(h)(3) to specify that if this situation does occur, the owner or operator shall perform the third-party audit based on the how the majority of valves in HRVOC service are monitored. The commission is not requiring

both audit approaches if both monitoring work practices are used. Adopted new paragraph (3) also specifies that the population of valves used for the field survey must only include those valves monitored according to the method used in the field survey, i.e., either the valves monitored according to Method 21, or the valves monitored according to the alternative work practice.

Finally, the commission adopts to re-letter the existing subsection (h), regarding the executive director's authority to specify additional corrective action, as a new subsection (i). In addition, the term *total population valve count* was revised to *total valve population count* throughout this section to be consistent with the term used in the Table. While this change was not proposed, the change is non-substantive and does not change the meaning of the rule.

#### FINAL REGULATORY IMPACT DETERMINATION

The commission reviewed this rulemaking in light of the regulatory impact analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking action does not meet the definition of a "major environmental rule" as defined in that statute. A "major environmental rule" is a rule, the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The intent of the rulemaking is to protect the environment, but no adverse effects are anticipated.

Further, this rulemaking does not meet any of the four applicability criteria of a "major environmental rule" as defined in the Texas Government Code. Texas Government Code, §2001.0225 applies only to a major environmental rule, the result of which is to: 1) exceed a standard set by federal law, unless the rule

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

The rulemaking implements requirements of 42 United States Code (USC), §7410, which requires states to adopt a SIP that provides for "implementation, maintenance, and enforcement" of the NAAQS in each air quality control region of the state. While 42 USC, §7410 does not require specific programs, methods, or reductions to meet the standard, a SIP must include "enforceable emission limitations and other control measures, means or techniques." It is true that the FCAA does require some specific measures for SIP purposes, such as the inspection and maintenance program, but those programs are the exception, not the rule, in the SIP structure of 42 USC, §7410. The provisions of the FCAA recognize that states are in the best position to determine what programs and controls are necessary or appropriate in order to meet the NAAQS. This flexibility allows states, affected industry, and the public to collaborate on the best methods to attain the NAAQS for the specific regions in the state. Even though the FCAA allows states to develop their own programs, this flexibility does not relieve a state from developing a program that meets the requirements of 42 USC, §7410. Thus, while specific measures are not generally required, the emission reductions are required. States are not free to ignore the requirements of 42 USC, §7410, and must develop programs to assure that the nonattainment areas of the state will be brought into attainment on schedule. The rulemaking will allow for the use of an alternative work practice, and its use is optional. Owners or operators of sites subject to the Chapter 115 fugitive emission LDAR rules may choose to use the alternative work practice or continue using the current traditional work practice. In addition, because

optical gas imaging instruments have limitations regarding the chemicals that can be detected, the commission is not adopting an "all-in or all-out" approach. Even within the same unit at a site, there may be different components in VOC service that an optical gas imaging instrument is not capable of detecting sufficient VOC species to be effectively used under the alternative work practice. Therefore, companies must have sufficient flexibility to evaluate which components the Chapter 115 alternative work practice is appropriate and which components the traditional Method 21 work practice is still necessary. In the *Demonstrating Noninterference under FCAA, Section 110(l)* section, the commission explains why the inclusion of the Chapter 115 alternative work practice will not negatively impact the status of the state's attainment with the ozone NAAQS. For sources subject to Subchapter D, Divisions 2 and 3, the alternative work practice will be at least equivalent to and in some instances more stringent than the current work practice in these rules. For sources subject to Subchapter H, Division 3, use of the alternative work practice with retention of the specific requirements that make the HRVOC rules more effective than traditional LDAR regulations will be at least equivalent to the current work practice in these rules. Therefore, this rulemaking meets and does not exceed requirements of federal law.

As discussed, this rulemaking action provides an option that supplements the implementation of the requirements of 42 USC, §7410. There is no contract or delegation agreement that covers the topic that is the subject of this action. Therefore, the rulemaking does not exceed a standard set by federal law, exceed an express requirement of state law, exceed a requirement of a delegation agreement, nor is it adopted solely under the general powers of the agency. Finally, this rulemaking action was not developed solely under the general powers of the agency, but is authorized by specific sections of Texas Health and Safety Code (THSC), Chapter 382, Texas Clean Air Act, and the Texas Water Code that are cited in the STATUTORY AUTHORITY section of this rulemaking, including THSC, §§382.002, 382.011, 382.012,

382.016, 382.017, and 382.021. Therefore, this rulemaking action is not subject to the regulatory analysis provisions of Texas Government Code, §2001.0225(b), because the rulemaking does not meet any of the four applicability requirements.

The commission invited public comment regarding the draft regulatory impact analysis, but no comments were received.

#### TAKINGS IMPACT ASSESSMENT

The commission completed a takings impact assessment for this rulemaking action under Texas Government Code, §2007.043. The adopted rules allow owners or operators of sites subject to the Chapter 115 fugitive emission LDAR rules to choose to use the alternative work practice or continue using the current traditional work practice. Specifically, the new and amended rules will not affect private property in a manner that restricts or limits an owner's right to the property that would otherwise exist in the absence of a governmental action. Use of the alternative work practice does not affect private real property, and therefore, allowing this option does not constitute a taking. Consequently, this rulemaking action does not meet the definition of a taking under Texas Government Code, §2007.002(5).

Additionally, Texas Government Code, §2007.003(b)(4) provides that Chapter 2007 does not apply to this rulemaking action because it is reasonably taken to fulfill an obligation mandated by federal law.

#### CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission determined the rulemaking is identified in the Coastal Coordination Act Implementation Rules, 31 TAC §505.11(b)(4), relating to rules subject to the Texas Coastal Management Program (CMP)

and will, therefore require that goals and policies of the CMP be considered during the rulemaking process. The CMP goal applicable to this rulemaking action is the goal to protect, preserve, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas (31 TAC §501.12(1)). The CMP policy applicable to this rulemaking action is the policy that commission rules comply with regulations in 40 CFR, to protect and enhance air quality in the coastal area (31 TAC §501.14(q)). The commission reviewed this rulemaking for consistency with the CMP goals and policies and determined that because the rulemaking will allow an alternative VOC measurement practice that will lead to reductions of VOC emissions no coastal natural resource areas will be adversely affected by the adopted rules although sources within counties included in the CMP will be required to comply with the amended rules if they chose to use the alternative measurement practice. Therefore, the adopted rulemaking is consistent with CMP goals and policies. The commission solicited comments on the consistency of the proposed rules with the CMP during the public comment period, but received none.

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

Chapter 115 is an applicable requirement under 30 TAC Chapter 122, Federal Operating Permits Program. Owners or operators subject to the federal operating permit program must, consistent with the revision process in Chapter 122, upon the effective date of the rulemaking, revise their operating permit to include the new Chapter 115 requirements if the owner or operator elects to use the optional alternative work practice specified in this rulemaking.

#### PUBLIC COMMENT

The commission held public hearings on January 19, 2010, at 2:00 p.m. at the public library in Irving; on January 20, 2010, at 2:00 p.m. at the Texas Commission on Environmental Quality headquarters in

Austin; and on January 21, 2010, at 2:00 p.m. at the Houston-Galveston Area Council offices in Houston. Question and answer sessions were held 30 minutes prior to the hearings. None of the hearings were officially opened because no party indicated a desire to provide comment.

The public comment period opened on December 25, 2009, and closed on January 25, 2010. Written comments were accepted via mail, fax, and through the eComments system.

Written comments regarding the Chapter 115 rulemaking were provided by the EPA, Harris County Public Health and Environmental Services (HCPHES), the Houston Sierra Club (HSC), the Texas Chemical Council (TCC), the Texas Oil and Gas Association (TxOGA), the Texas Pipeline Association (TPA), and Total Petrochemicals USA Inc. (Total).

## RESPONSE TO COMMENTS

### *General Comments*

Total supported the use of the alternative work practice and has used optical gas imaging instruments to identify and direct repair resources to higher volume leaks. Total commented that overall fugitive emissions are reduced and local air quality is improved by using the optical gas imaging instrument.

**The commission appreciates the support. As noted in the preamble, the commission expects this alternative work practice will accelerate the finding and fixing of leaks, especially large leaks.**

HSC supported the use of optical gas imaging instruments if all leak detections are followed by a Method 21 measurement capable of determining leak VOC concentration.



**This rulemaking provides options for the use of optical gas imaging instruments while maintaining rigorous repair requirements. Even though the current technology cannot quantify VOC concentrations, the commission is allowing the use of optical gas imaging instruments because the technology will enable earlier detection of leaks. Requiring Method 21 measurement for all leak detection would be a significant fiscal disincentive to using the alternative work practice. As discussed elsewhere in this preamble, optical gas imaging instruments cannot determine concentration. In cases where the rules have a concentration based threshold, the commission has adopted a conservative approach that assumes the worst case. However, owners and operators need the option to prioritize repairs of the larger leaks first. Therefore, owners and operators electing to use the alternative work practice have an option to measure the VOC concentration of a detected leak with Method 21 in order to prioritize leak repairs. If the VOC concentration is over the threshold value specified in the rulemaking, repairs continue to be required on the same expedited schedule. No changes were made in response to this comment.**

HSC requested the commission require an executive director-approved quality assurance/quality control plan for use of the alternative work practice containing calibration, auditing, and operational procedures; detectable VOC; frequency of use; minimum detail of operator training; and required records.

**The commission is adopting the instrument calibration procedures, auditing and operational procedures, handling of non-detectable VOC, frequency of use, and required records from EPA's alternative work practice in 40 CFR §60.18. The adopted rulemaking also includes additional training and recordkeeping beyond what is required in 40 CFR §60.18. The commission is adopting**

**additions to the HRVOC audit requirements in §115.788, operational procedures in §115.358(d), and required records in §115.356. As discussed elsewhere in this preamble, the commission has respectfully chosen not to specify the minimum detail of operator training to allow flexible development of the training material to match technology development. All affected owners and operators choosing to use the alternative work practice must comply with the requirements of Chapter 115. The addition of an executive director-approved quality assurance/quality control plan is unnecessary because the requested elements of the plan are already included in the commission's rules. Therefore, no changes were made in response to this comment.**

HSC commented that optical gas imaging and Method 21 measurement or Method 21 measurement alone should be required to be used for components on which LDAR is not currently required, such as storage tanks, flares, incinerators, process vessels, loading and unloading, and transport vessels.

**The rules, as proposed, apply only to components currently subject to an LDAR requirement under Chapter 115. Therefore, the commission is unable to make this change because other newly affected sources have not been given an opportunity to comment. No changes were made in response to this comment.**

Total and TPA supported the rule structure including the use of both optical gas imaging instruments and Method 21. Total added that given the inability of current optical gas imaging instruments to quantify leaks, owners or operators cannot expect to use the alternative work practice without also using Method 21.

**The commission recognizes that optical gas imaging instruments currently cannot quantify VOC concentration and cannot detect all VOC. In addition, the federal alternative work practice in 40 CFR §60.18 has been written as a voluntary measure designed to supplement rather than replace Method 21 measurement. Therefore, the commission adopts this rulemaking as a voluntary approach intended to rely on traditional Method 21 measurement for tasks that optical gas imaging instruments are currently incapable of performing, with consideration given to ensure there is no backsliding from the approved SIP.**

TCC, TxOGA, and Total suggested that the commission adopt the EPA-approved alternative work practice by reference and clarify conflicting language in Chapter 115. The commenters stated that such adoption by reference would be consistent with SIP requirements under the FCAA.

**As discussed elsewhere in this preamble, the Chapter 115 alternative work practice is optional and voluntary. Owners or operators of sites subject to the Chapter 115 fugitive emission LDAR rules may choose to use the alternative work practice or continue using the traditional work practice. In addition, because optical gas imaging instruments cannot detect all chemical species, the commission is not adopting an "all-in or all-out" approach. Therefore, companies must have sufficient flexibility to evaluate which components can be monitored according to the Chapter 115 alternative work practice and which components must be monitored according to the traditional Method 21 work practice.**

**Because the alternative work practice is a type of alternate means of control under the Chapter 115 fugitive emission LDAR rules, additional revisions to the rules are necessary beyond just**

referencing the federal alternative work practice in order to properly integrate the alternative work practice into the rules. As much as possible, these rules mirror the alternative work practice adopted by the EPA. For example, the optical gas imaging instrument specifications in 40 CFR §60.18(i) are incorporated by reference, and the frequencies for performing the alternative work practice are identical to the frequencies in Table 1 to Subpart A of 40 CFR Part 60.

The commenters did not specify what text in Chapter 115 conflicts with the federal rules. However, certain aspects of the alternative work practice adopted by the EPA are not consistent with the requirements of the Chapter 115 rules, which are approved as part of the Texas SIP. In addition, there are components of the federal alternative work practice that may not provide adequate enforceability to ensure that the alternative work practice will be effectively implemented. Therefore, the commission is adopting some additional requirements to ensure proper enforceability and effectiveness of the Chapter 115 alternative work practice. These issues and additional requirements are discussed in greater detail in the SECTION BY SECTION DISCUSSION portion of this preamble.

The commenters did not explain why they think adopting the federal alternative work practice requirements by reference would be consistent with SIP requirements under the FCAA. However, the commission respectfully disagrees that adopting the federal alternative work practice by reference would be consistent with the FCAA SIP requirements. Section 110 of the FCAA, 42 USC §7410, includes the requirement for states to develop plans that meet FCAA requirements. Even if the federal rules were merely incorporated by reference, the commission is also required to comply with the FCAA, §110(l), requirement to adopt SIP revisions that do not interfere with any

**applicable requirement concerning attainment or reasonable further progress for attaining the ozone NAAQS or any other requirement of the FCCA. Because the SIP does not include any alternatives to the use of Method 21, additional requirements beyond those included in the federal rules are necessary to ensure the alternative work practice is at least as stringent as the existing SIP requirements and to ensure the rules are enforceable.**

**Because of overlapping state rules and permit requirements with fugitive emission LDAR programs, many owners and operators of facilities will not be able to use the federal alternative work practice until Texas fugitive emission LDAR rules are revised and if necessary, permit amendments are obtained to allow the use of the alternative work practice. This rulemaking amends the Chapter 115 fugitive emissions rules to incorporate an alternative work practice similar to the work practice adopted by the EPA in December 2008. The NSR air permit LDAR requirements are a separate regulatory requirement from the Chapter 115 fugitive emissions rules, and this rulemaking would not change any applicable permit LDAR requirements. Companies wanting to use the alternative work practice will still need to change their permit LDAR requirements through the normal NSR permitting process; implementation without a corresponding permit change could be a violation of the permit and the SIP, which includes permits.**

**As discussed elsewhere in this preamble, the general VOC fugitive emission LDAR rules in Chapter 115, Subchapter D, Divisions 2 and 3 were implemented to satisfy RACT requirements under the FCAA. The applicable leak definition in Subchapter D, Division 2 under the traditional Method 21 work practice is 10,000 ppmv. The applicable leak definitions in Subchapter D, Division 3 under the**

traditional Method 21 work practice are 10,000 ppmv for pump seals and compressor seals, and 500 ppmv for all other components subject to the division. When finalizing the federal alternative work practice, the EPA indicated (December 22, 2008, issue of the *Federal Register* (73 FR 78202)) that the most stringent leak definition, 500 ppmv, was used to determine the leak threshold of 60 g/hr for the alternative work practice. The EPA is allowing the federal alternative work practice for federal LDAR regulations in 40 CFR Parts 60, 61, 63, and 65 down to the 500 ppmv leak threshold, which is equivalent to the 500 ppmv specified for most components in Division 3, and is significantly more stringent than the 10,000 ppmv specified for Division 2 and for pump seals and compressor seals in Division 3. The Chapter 115 alternative work practice is based on the same instrument specifications and has the same requirements for determining frequency based on detection sensitivity. Therefore, allowing the Chapter 115 alternative work practice for sources subject to Subchapter D, Divisions 2 and 3 would be at least equivalent to and in some instances more stringent than the current work practice in these rules. While this may support adoption by reference, the adopted rules make it clear precisely which requirements must be met.

As discussed elsewhere in this preamble, the HRVOC fugitive emission LDAR rules in Subchapter H, Division 3 were implemented as part of the HGB attainment demonstration for the one-hour ozone NAAQS. The applicable leak definition in Subchapter H, Division 3 under the traditional Method 21 work practice is 500 ppmv. As discussed elsewhere in this preamble, this leak threshold is equivalent to the leak threshold used by the EPA to establish the leak threshold for the federal alternative work practice, and the Chapter 115 alternative work practice incorporates the same specifications of the federal alternative work practice. Therefore, the leak definition in the HRVOC fugitive emission LDAR rules is equivalent to the leak definition that the EPA has already allowed

**in the federal alternative work practice. However, certain control requirements in the HRVOC fugitive rules are not tied specifically to the leak definition. For example, §115.782(b)(1) requires that a first attempt to repair a leak detected over 10,000 ppmv is required within one business day, and the leak must be repaired no later than seven calendar days after the leak is detected. Leaks that are 10,000 ppmv or less are subject to a less stringent first attempt requirement of within five calendar days and must be repaired no later than 15 calendar days after the leak is detected. As discussed elsewhere in this preamble, optical gas imaging instruments are not capable of determining the concentration of the leak; therefore, an owner or operator using the alternative work practice would not be capable of determining whether a leak is greater than the 10,000 ppmv threshold in §115.782(b)(1). This rapid repair time for leaks larger than 10,000 ppmv is one requirement that makes the HRVOC rules more effective than traditional LDAR regulations. In order to ensure there is no potential backsliding from existing SIP requirements on this and similar requirements, the amendments to the HRVOC fugitive rules in Division 3 specify that the owner or operator must comply with the more stringent requirement unless the owner or operator performs a Method 21 test to demonstrate the leak concentration is less than the threshold specified in the rule.**

**Another component of the HRVOC fugitive rules designed to improve effectiveness of the LDAR programs is the third-party audits required by §115.788. The commission is retaining the third-party audit requirement for sites using the Chapter 115 alternative work practice. As discussed elsewhere in this preamble, the third-party audit field survey and data review requirements are modified to account for the difference between the work practices. However, whether the site is using the Method 21 traditional work practice or the Chapter 115 alternative work practice, the**

**intent of the third-party audit is fundamentally the same, to ensure effective implementation of the work practice. The rules in Subchapter H, Division 3 were modified to accommodate the alternative work practice in a manner that ensures that the rules retain the stringency of the existing rules. This ensures there is compliance with FCAA, §110(l). If the commission merely adopted the federal rules by reference, the additional stringency in the rules could result in backsliding from the approved Texas SIP. No changes were made in response to these comments.**

*Section 115.326, Recordkeeping Requirements*

HSC expressed support for the recordkeeping requirements in §115.326 with the following exception. HSC requested the commission add a requirement to copy all local air quality agencies with jurisdiction on any report required by §115.326. HCPHES requested the commission clarify that video records are required to be made available upon request to local regulatory agencies even if they contain proprietary information.

**The current rule language requires owners or operators to maintain all records required by this division and make them available to local air pollution control agencies with jurisdiction regardless of whether they contain proprietary information. In addition, the commission did not propose to expand the reporting requirements to include local air pollution control agencies and affected parties would not have the opportunity to comment. The commission made no changes in response to this comment.**

*Section 115.356, Recordkeeping Requirements*



HSC supported the requirement in §115.356(4)(A) for records of all components sampled according to the alternative work practice.

**The commission appreciates the support.**

TPA requested the commission remove any recordkeeping requirements not required by the federal alternative work practice in 40 CFR §60.18, including §115.356(4)(E) and §115.786(f)(5), regarding flow meter readings, video record, and the name of each operator performing the daily instrument check.

**As explained elsewhere in this preamble, recordkeeping requirements beyond those requirements listed in 40 CFR §60.18 are included to ensure rule enforceability. The name of each operator is necessary because the adopted rules require each optical gas imaging instrument operator to conduct the daily instrument check. No changes were made in response to this comment.**

TxOGA commented that the requirement in §115.356(4)(F)(i)(II) that each component be identifiable in the video record results in an undue recordkeeping and memory storage burden. HSC expressed support for the requirement in §115.356(4)(F)(i) for all components surveyed by the alternative work practice to be identifiable in a video record containing a time and date stamp.

**The federal alternative work practice in 40 CFR §60.18 requires that each component be identifiable in the video record in order to meet applicable recordkeeping in 40 CFR Parts 60, 61, 63, and 65, and therefore, the commission cannot change this requirement. Available optical gas imaging instruments are capable of providing the required time and date stamp with a recorded**

**image sufficient to identify each component. The commission made no changes in response to these comments.**

TxOGA requested a definition of the term *monitoring event* as used in §115.356(4)(F)(i)(I).

**The commission has clarified in the SECTION BY SECTION DISCUSSION portion of this preamble that the term *monitoring event* as used in §115.356(4)(F)(i)(I) refers to each instance of monitoring a component, since a component must be monitored according to a schedule and after a repair, each with required records.**

HSC expressed support for the unchanged requirement in §115.356(5) to maintain records for five years.

**The commission appreciates the support.**

HSC requested the commission require that records of alternative work practice use be made immediately available to investigators and be available to the public. HSC also requested the commission add a requirement to copy all local air quality agencies with jurisdiction on any report required by §115.356.

HCPHES requested the commission clarify that video records are required to be made available upon request to local regulatory agencies even if they contain proprietary information.

**As discussed elsewhere in this preamble, the current rule requires owners or operators to maintain all records required by this division and make them available to the executive director's compliance investigators and to local air pollution control agencies with jurisdiction regardless of whether they**

**contain proprietary information. In addition, the commission did not propose to expand the reporting requirements to require reports to be also sent to local air pollution control agencies, and affected parties would not have the opportunity to comment. Expansion of this requirement to make these records available to the public is beyond the scope of this rulemaking. The commission made no changes in response to this comment.**

*Section 115.357, Exemptions*

TxOGA requested the commission replace the 10,000 ppmv threshold and Method 21 measurement required in §115.357(8) with the mass emission threshold determined by the daily instrument check and an observation with an optical gas imaging instrument showing no detected leak. TxOGA asserted that an optical gas imaging instrument measurement showing no detected leak is sufficient to prove that there is no leak present greater than the mass emission threshold. In a related comment, TxOGA asserted that all leaks detected by the optical gas imaging instrument are over 10,000 ppmv.

**The commission respectfully declines to make the requested change because the existing 10,000 ppmv leak detection threshold is part of a federally approved SIP. The exemption discussed by the commenter allows components in certain service to remain leaking if monitoring shows that the leak has not grown to more than 10,000 ppmv. The suggested substitution of the mass emission threshold would not provide the same level of protectiveness since it is not guaranteed to be 10,000 ppmv or less. The commission respectfully disagrees that all leaks detected by current optical gas imaging instruments are proven to be over 10,000 ppmv, and the commenter provided no evidence to support the claim. No changes have been made in response to this comment.**

*Section 115.358, Alternative Work Practice*

HSC expressed support for the definition of a leak in §115.358(b)(4)(A) as any emissions imaged by an optical gas imaging instrument, as defined in §115.358(b)(2).

**The commission appreciates the support.**

HSC supported the requirement in §115.358(c)(2) for each operator using the optical gas imaging instrument to conduct the daily instrument check to ensure proper use of the equipment.

**The commission appreciates the support.**

TPA requested the commission remove requirements in §115.358(c)(2) for each operator performing optical gas imaging to also perform the daily instrument check because training requirements are sufficient to ensure operator competence.

**The commission respectfully disagrees with the commenter's assertion that training alone is sufficient to ensure operator competence. The commission adopts this requirement, which is not included in the federal alternative work practice in 40 CFR §60.18, to ensure that each instrument operator is able to demonstrate competence with the optical gas imaging instrument during the varying conditions of each day the instrument is used. No changes were made in response to this comment.**

HSC requested the commission require a calibration procedure for the optical gas imaging instrument.

**Adopted §115.358(c)(2) requires owners and operators to meet all requirements of the daily instrument check as specified in 40 CFR §60.18(i)(2), which includes an instrument calibration procedure. The calibration procedure in 40 CFR §60.18 is sufficient to implement the alternative work practice, and therefore, no changes were made in response to this comment.**

HSC requested the commission clarify use of the alternative work practice or other leak detection methods on VOC streams that cannot be observed by the optical gas imaging instrument or that can only be observed to a limited degree.

**A sensitivity adjustment procedure in adopted §115.358(c)(2) requires owners and operators to meet all requirements of the daily instrument check specified in 40 CFR §60.18(i)(2)(A) and (B), including providing the technical basis for the mass fraction of detectible chemicals. Any chemicals that are not detectable by the optical gas imaging instrument will reduce the mass fraction of detectible chemicals in a mixed VOC stream and the equation in 40 CFR §60.18(i)(2)(B) will require the instrument to be able to detect a smaller leak of the mixed stream during the daily instrument check. If no detectible chemicals are present in the monitored components, the alternative work practice cannot be used. No changes were made in response to this comment.**

HSC supported limiting the maximum distance allowed for imaging to the distance demonstrated in the daily instrument check and linking the daily instrument check to the person using the optical gas imaging instrument.

**The commission appreciates the support.**

TPA requested the commission revise §115.358(d) to remove the requirement for each optical gas imaging instrument operator to daily demonstrate a maximum measurement distance and set the limit at the maximum distance demonstrated that day by the optical gas imaging instrument operated by any person. TPA asserted that the instrument would produce identical results when used by any qualified operator. TxOGA supported requirements for operator training as the best assurance for finding leaks.

**It is necessary to demonstrate both instrument and operator ability on a daily basis, especially at the maximum measurement distance, since field conditions such as wind and temperature vary daily. Accordingly, the commission respectfully disagrees with the commenter's assertion that trained instrument operators are interchangeable because the operator chooses the optical gas imaging instrument settings and makes necessary adjustments to maximize image detection. The commission respectfully declines to make the suggested changes.**

HSC requested the commission require all portions of a component to be imaged for a specified period of time.

**The federal alternative work practice contains requirements to operate the optical gas imaging instrument according to manufacturer's specifications, but it does not include a requirement to image a component for a specific period of time. One of the desirable characteristics of the optical gas imaging instrument is its fast response time compared with Method 21 instruments. The commission concludes that requiring an imaging time beyond the manufacturer's suggestion would**

**be counterproductive. Furthermore, the commission has no basis for establishing a default minimum imaging time. No changes have been made in response to this comment.**

HSC requested the commission require that optical gas imaging instrument be operated in a manner that reduces the effects of measurement interference from other objects, such as heat sources.

**The commission has included requirements in §115.358(d) to operate the optical gas imaging instrument in accordance with manufacturer's operating parameters, in §115.358(h) for instrument operator to receive training, and in §115.358(c)(1) that the instrument is capable of imaging leaks. These requirements set sufficient bounds on permissible optical gas imaging instrument operation to assure proper measurement. No changes were made in response to this comment.**

TxOGA commented that the owner or operator should be allowed to decide the alternative work practice monitoring frequency, including monitoring frequencies for difficult-to-monitor or unsafe-to-monitor components, rather than use the frequencies listed in §115.358(e)(1) that are based on detection sensitivity level.

**In the December 22, 2008, issue of the *Federal Register* (73 FR 78205), the EPA expects the designation of some components as difficult to monitor and unsafe to monitor to change due to the different capabilities of an optical gas imaging instrument compared with a portable hydrocarbon analyzer. Section 115.358(e)(2) clarifies that the alternative work practice may be used at frequencies other than those specified in §115.358(e)(1) if those alternative frequencies are specifically allowed by other divisions of Chapter 115. Alternative monitoring frequencies for**

**difficult-to-monitor and unsafe-to-monitor components are allowed, but skip periods for good performance are not allowed. The commission does not have the flexibility to allow owners and operators to decide alternative frequencies beyond the requirements specified in the rule because there is no assurance that the frequencies chosen will always be more stringent than those already incorporated into the approved SIP. Any reduction in stringency would be backsliding. No changes to monitoring frequencies were made in response to this comment.**

EPA commented that the preamble discussion of §115.358(e)(2) was unclear and differed from the rule language when it described the use of the alternative work practice at alternative frequencies allowed by other divisions of this chapter, such as difficult-to-monitor components, but different from the frequency required by §115.358(e)(1). EPA commented that the corresponding rule language was clear.

**In response to this comment, the commission has modified the preamble to describe the proper use of alternative monitoring frequencies.**

HSC requested the commission require that frequency of alternative work practice use be submitted to the executive director.

**The frequency of alternative work practice use is specified in §115.358(e) and other requirements for Method 21 monitoring. For instances where these rules contain multiple options for the monitoring frequency, such as §115.781(6)(D), notification of the option selected is required. It is unnecessary to require companies to submit the frequency to the executive director. As explained**



**elsewhere in this preamble, this notification is not intended to be on a component-by-component basis. No changes to notification requirements were made in response to this comment.**

TPA requested the commission clarify that the 30-day notice is not required prior to each use of the alternative work practice on a particular unit but should be required only prior to the initial use. TPA also questioned if the rulemaking requires an owner or operator who has submitted a notice under §115.358(g) to monitor the listed components using the alternative work practice. TPA requested the commission ensure flexibility to use other approved test methods without withdrawing the initial notice or submitting an amended notice.

**The notification prior to use of the alternative work practice is necessary so that commission compliance investigators know what to expect when performing LDAR investigations. The initial notice in §115.358(g)(1) identifies the unit, the number of categorized components on which the owner or operator will use the alternative work practice, and when such use will start. Revisions to the notice are only required in §115.358(g)(2) if use of the alternative work practice is expanded to a unit not included in the initial notice. An owner or operator cannot switch between use of the alternative work practice and Method 21 to monitor a component in a manner that causes required monitoring intervals to be missed. No changes were made in response to this comment.**

TCC, TxOGA, and Total requested the commission delete the notification requirements in §115.358(g) because required recordkeeping accomplishes the same objective.

**The commission has included the notification requirement in §115.358(g) to help ensure effective enforcement by allowing staff to plan compliance investigations based on the monitoring method being used. The commission respectfully disagrees that recordkeeping alone is sufficient and declines to make changes in response to this comment.**

HSC supported annual Method 21 measurement of any component monitored using the alternative work practice.

**The commission appreciates the support.**

TCC, TxOGA, and Total commented that 24 hours of initial training on a particular make of optical gas imaging instrument is reasonable, but if a manufacturer introduces a new model with small changes, no additional training should be required.

**The commission agrees that a 24-hour course may not be necessary to train optical gas imaging instrument operators on new or different instrument models because slight changes from a previous model on which they have been trained can be covered in a shorter course. In response to this comment, the commission has added a provision in §115.358(h)(3) requiring an eight-hour training course on a new or different instrument model if the operator has completed the 24-hour training course.**

TPA requested the commission remove the annual refresher training provision in §115.358(h)(2)(A) because it may be difficult for operators to find a training course. TxOGA supported allowing operator training by optical gas imaging instrument vendors.

**The commission has provided ample time for training providers to adapt optical instrument operator initial training courses to refresher courses. Furthermore, the refresher course will not be necessary until near the end of the first year after this rulemaking becomes effective. The commission made no changes in response to this comment.**

HSC requested the commission set minimum curriculum for operator training classes, similar to the practice used for opacity training.

**Training providers are currently providing sufficiently rigorous optical gas imaging instrument initial training classes, and at this time it is unnecessary to specify particular content beyond use of the make and model of instrument the operator will use. The content of an opacity training course is regulated because it is used to provide occupational registration administered by the commission under 30 TAC Chapter 30, Subchapter L. No such registration is required for optical gas imaging operators, so the commission does not need to specify the minimum curriculum of these courses. No changes were made in response to this comment.**

TPA requested the commission reduce the training option in §115.358(h)(2)(B) from 100 to 50 hours, or eliminate the requirement, arguing that 50 hours is sufficient to assure proficiency. TCC, TxOGA, and Total expressed support for a 100-hour experience option, but requested the commission revise

§115.358(h)(2)(B) to require that operators gain 100 hours of experience using an optical gas imaging instrument annually, rather than per calendar year, and to remove the restriction for records to be kept in written form.

**The commission has provided options to assure optical gas imaging instrument operator proficiency: refresher training or demonstrated experience. In response to comments, the commission revised the experience option in §115.358(h)(2)(B) to require operators to maintain at least 100 hours per 12 months, rather than per calendar year, to provide some flexibility for affected operators. The commission also revised this requirement to remove the restriction for records to be kept in written form and allow the record of these hours to be kept in any format because an electronic storage format can ensure operator experience as well or better than a written format. With regard to the number of hours required for the hands-on experience option, the commission assumes that operators using optical gas imaging instruments on a regular basis to perform the alternative work practice will remain proficient with the technology. Operators not using the instrument routinely may need refresher training to ensure the proper use of the technology. The minimum 100 hours per year of hands-on operational experience is based on assuming minimum usage for operators performing the alternative work practice a minimum of six cycles per year for an estimated minimum amount of time to perform each monitoring cycle for a moderately sized facility performing the alternative work practice. The commission maintains that the 100 hours per year is a reasonable minimum amount of hands-on experience to meet this goal. The commission acknowledges that some operators may not perform the alternative work practice frequently enough to meet this option; therefore, the annual refresher class is provided as an alternative. Additionally, the commission notes that operators are not restricted to use the optical**

**gas imaging instrument solely for the alternative work practice to satisfy the minimum hours of hands-on experience. Hours spent by the operator using the optical gas imaging instrument for other purposes can contribute to the hands-on experience for the purposes of the adopted training requirements.**

*Section 115.781, HRVOC General Monitoring and Inspection Requirements*

TxOGA commented that all leaks detected by the optical gas imaging instrument would be over 10,000 ppmv if measured by a hydrocarbon analyzer.

**The commission respectfully disagrees that all leaks detected by current optical gas imaging instruments would be over 10,000 ppmv if measured by a hydrocarbon analyzer. The commenter provided no data to support the assertion. The commission made no changes in response to this comment.**

TCC, TxOGA, and Total requested the commission revise §115.781(h)(6)(A) to allow a Method 21 measurement of a leaking component to count for the annual Method 21 measurement required by §115.358(f) if the Method 21 measurement is made no later than one business day rather than on the same day as the leak was detected using the alternative work practice.

**In response to comments, the commission revised §115.781(h)(6)(A) to allow the Method 21 measurement no later than one business day after the leak was detected using the alternative work practice. However, quantification of the leak by Method 21 does not reset the repair clock that is**

**based on the initial detection of the leak. This Method 21 measurement is required annually, so one additional day is insignificant for this purpose.**

HSC requested that the commission require a periodic Method 21 measurement of all components in HRVOC service not subject to a federal LDAR requirement that are found leaking by the alternative work practice in addition to a Method 21 measurement on the same day the leak was detected. HSC disagreed with the commission's statement in the preamble of this rule that maintaining the requirement for an additional annual Method 21 measurement presents a significant fiscal disincentive for use of the alternative work practice.

**Components in HRVOC service subject to §115.782(b)(3) but not subject to a federal Method 21 monitoring requirement are required by §115.358(f) to receive a Method 21 measurement annually. The follow-up Method 21 measurement required by §115.781(h)(6)(A) for leaks detected by optical gas imaging accomplishes the annual measurement objective. In addition, since components monitored using the alternative work practice are monitored more frequently than components monitored using Method 21 alone, this measurement option is also more protective. The commission has the ability to determine when this annual measurement is taken since this is a state requirement and chooses to use this earlier measurement to encourage use of the alternative work practice. An additional annual Method 21 measurement of these components is a disincentive to widespread use of the alternative work practice. The commission's intent for providing this option is to encourage use of the alternative work practice and use of Method 21 to quantify leaks when detected but not to specifically require Method 21 on each detected leak. The commission respectfully declines to make changes in response to this comment.**

TCC, TxOGA, and Total requested the commission allow owners and operators to choose the option in §115.781(h)(6) without the prior notice required by §115.781(h)(6)(D).

**This rulemaking consolidated the notice required by §115.781(h)(6)(D) into the notification already required by §115.358(g) in order to limit the number of notifications owners or operators are required to submit. This notification in §115.781(h)(6)(D) is necessary to allow commission investigators to properly plan compliance investigations. The commission made no change in response to this comment.**

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

HSC supported the option to use the alternative work practice if the optical gas imaging instrument is capable of measuring leak concentration or if all leaks detected must be measured by Method 21 and maintain required leak repair dates. TCC, TxOGA, Total, and TPA requested the commission revise §115.782(b)(3) to allow a Method 21 measurement no later than one business day after an HRVOC leak is detected, rather than on the same day, to meet the requirement that a first attempt at repair be made no later than one business day after the leak is detected. TPA commented that owners or operators would be burdened by the expense of either faster repair or duplicative measurement rather than incentivized to use the alternative work practice.

**The commission appreciates the support from HSC and adopts a framework for use of the alternative work practice that pairs the speed of optical gas imaging instruments with the accuracy of Method 21 measurements. When the alternative work practice is used to monitor components**

**with a federally applicable LDAR requirement, all repair schedules must remain the same, as clarified by EPA on December 22, 2008 (FR 78205). Since all emissions imaged by the optical gas imaging instruments are defined by §115.358(b)(4)(A) to be leaks, a leak is considered to be detected when it is imaged by the optical gas imaging instrument.**

**The commission recognizes that owners or operators may, either by design or inadvertently, image and detect leaks with the optical imaging instrument from components that are difficult to monitor using Method 21. In response to comment, the commission changed the applicability of proposed §115.782(b)(3) to apply to components monitored using the alternative work practice except those classified as difficult to monitor using Method 21 and not classified as difficult to monitor using the alternative work practice. In response to comment, the commission adopts §115.782(b)(3) with an optional Method 21 measurement that, if used, must be conducted no later than the next business day after the leak is detected using the alternative work practice. Since quantification of the leak by Method 21 does not reset the repair clock, a first attempt at repair for a leak measured over 10,000 ppmv by Method 21 is still required no later than the next business day after the leak was detected by the alternative work practice. In response to comment, the commission added §115.782(b)(4) that requires repair of components classified as difficult to monitor using Method 21, but not difficult to monitor using the alternative work practice on the same five- and 15-day schedule as leaks measured under 10,000 ppmv. This is necessary because additional repair time is required for the same accessibility reasons that caused the component to be classified as difficult to monitor using Method 21. Since the components involved will be measured according to the alternative work practice frequencies in §115.358(e), the additional repair time will be more than offset by the**



**increase in monitoring frequency over that required for components classified as difficult to monitor using Method 21.**

**The commission is providing an option for, rather than requiring, a Method 21 measurement.**

**Likewise, use of the alternative work practice is voluntary, and the commission only anticipates its use by owners or operators who conclude that the practice is desirable. The commission maintains that requiring a Method 21 measurement in all cases when a leak is detected using the alternative work practice would be a significant cost burden and would discourage use of the alternative work practice.**

**The commission is unable to offer incentives to encourage the use of the alternative work practice because these rules are federally enforceable and EPA has not included incentives in its definition of the alternative work practice in 40 CFR §60.18. The commission cannot provide any incentives that would lessen the effectiveness or enforcement of the rules because this would be backsliding from the approved SIP.**

HSC requested the commission require a Method 21 measurement on all leaks detected using the alternative work practice to calculate mass emissions for submission to emission inventory.

**The commission adopts these rules in a manner that balances decreased emissions from increased use of the alternative work practice with maximum accuracy of the emissions inventory. As discussed elsewhere in this preamble, use of the alternative work practice will lead to emission reductions since larger leaks will be detected and repaired faster. Not requiring a follow-up Method**

**21 measurement for every detected leak will encourage the use of the alternative work practice. If a Method 21 measurement is not taken, the commission requires the emission calculation for emission inventory purposes to assume that the leak is at the maximum level of 100,000 ppmv. Thus, the emissions inventory will include a conservative estimate. Section 115.782(c)(1)(B)(i)(II) allows the use of a Method 21 measurement to more accurately calculate the emission for inventory purposes. The commission has determined that this is the proper balance and therefore declines to make changes in response to this comment.**

TCC, TxOGA, and Total requested the commission revise §115.782(c)(1)(B)(i)(II) to use a 25,000 ppmv pegged emission rate value in emission calculations rather than a 100,000 ppmv pegged emission rate value because the 25,000 ppmv pegged emission rate value is more accurate and not all leaks observed will be as large as 100,000 ppmv.

**The commission respectfully disagrees with the assertion that a 25,000 ppmv leak assumption produces a more accurate mass emission rate. The commenters provided no data to validate their assertion and the commission bases the 100,000 ppmv value on EPA guidance. While it is true that not all leaks will be as large as 100,000 ppmv, some could be even larger. If the optional Method 21 measurement is performed consistent with EPA's *Protocol for Equipment Leak Emission Estimates*, a dilution probe will be used to accurately measure leaks between 10,000 and 100,000 ppmv, and this value will be used in the EPA correlation mass emission calculation. The adopted rule allows the owner or operator the option of recording the most accurate mass emission rate with the added effort of an additional Method 21 measurement while providing the commission with the assurance**

**of a conservatively accurate emissions inventory. The commission made no changes in response to this comment.**

TCC, TxOGA, and Total requested the commission revise §115.782(c)(1)(B)(iii)(III) to allow a Method 21 measurement of a leak from a component other than a valve no later than one business day after a leak is detected by the alternative work practice, rather than on the same day, to meet the requirement that extraordinary measures must be undertaken within 22 days for a leak measured over 10,000 ppmv or 30 days for a leak measured under 10,000 ppmv.

**In response to comment, the commission revised §115.782(c)(1)(B)(iii)(III) to allow an optional Method 21 measurement no later than one business day after the leak was detected using the alternative work practice. Since all emissions imaged by the optical gas imaging instruments are defined by §115.358(b)(4)(A) to be leaks, a leak is considered to be detected when it is imaged by the optical gas imaging instrument. Quantification of the leak by Method 21 does not reset the repair clock. The additional time allowed to take the Method 21 measurement will not adversely affect preparations for the required repair.**

TCC, TxOGA, and Total requested the commission revise §115.782(c)(2)(A)(i)(III) to allow a Method 21 measurement of a leak from a valve no later than one business day after a leak is detected by the alternative work practice, rather than on the same day, to meet the requirement that extraordinary measures must be undertaken within 14 days for a leak measured over 10,000 ppmv or 30 days for a leak measured under 10,000 ppmv.

**In response to comment, the commission revised §115.782(c)(2)(A)(i)(III) to allow an optional Method 21 measurement no later than one business day after the leak was detected using the alternative work practice. Since all emissions imaged by the optical gas imaging instruments are defined by §115.358(b)(4)(A) to be leaks, a leak is considered to be detected when it is imaged by the optical gas imaging instrument. Quantification of the leak by Method 21 does not reset the repair clock.**

*Section 115.786, HRVOC Recordkeeping Requirements*

HSC requested the commission require reports to be submitted to all local air quality agencies in the area. HCPHES requested the commission clarify that video records are required to be made available upon request to local regulatory agencies even if they contain proprietary information.

**The rule continues to require owners or operators to maintain records and make them available to local air pollution control agencies with jurisdiction. The only required report is the list of non-repairable components required by §115.786(c) that must be submitted to the executive director and any local air pollution control agency with jurisdiction. All records required by this division must be made available to local regulatory agencies with jurisdiction regardless of whether they contain proprietary information. The commission made no changes in response to these comments.**

*Section 115.788, Audit Provisions*

HSC requested the commission require an internal and external audit of the use of the alternative work practice, including calibration and operation, with defined audit procedures.

**The commission contends that the adopted rule provides a rigorous, independent external audit of the alternative work practice when used to monitor fugitive HRVOC emissions. The revisions in §115.788 are adopted to ensure that the effectiveness of the existing audit requirements in §115.788 are maintained. Audit procedures, including evaluation of calibration and operation of the optical gas imaging instrument, are included in the audit by requirements in §115.788(h). The adopted rule has quality assurance provisions and training requirements for general use of the alternative work practice. It is not the commission's intent that the third-party audit requirements be expanded to any company using the alternative work practice. The commission maintains that the adopted quality assurance provisions for the alternative work practice are adequate and expanding the third-party audit provisions is not necessary solely due to use of the alternative work practice.**

TCC, TxOGA, and Total requested the commission revise §115.788(a)(2)(D) to allow use of the alternative work practice to conduct the annual HRVOC component audit of sites using both Method 21 and the alternative work practice when the majority of components have been measured previously by Method 21 because they supported a camera-to-camera audit. HSC requested the commission require the annual HRVOC fugitive measurement audit to be performed on each component by the same method used to monitor that component.

**The commission recognizes that owners or operators are likely to only be able to implement the alternative work practice on a portion of the valves subject to the HRVOC audit provisions in §115.788. The commission also recognizes the need for an audit to use the same measurement method on a sufficiently large sample size, while keeping the cost low enough to encourage use of the alternative work practice. The commission respectfully declines to make changes in response to**

**the comment from HSC and has chosen to specify that the audit must be performed using one measurement method. In response to comment, the commission revises §115.788(a)(2)(D) to clarify that the audit must only use the measurement method used on the majority of the components during the monitoring period. The commission also clarifies §115.788(a)(2)(D) by specifying that in mixed measurement situations, the provisions of §115.788(h)(3) apply, and all valves audited must be monitored and audited by the same method.**

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

**DIVISION 2: FUGITIVE EMISSION CONTROL IN PETROLEUM REFINERIES IN GREGG,  
NUECES, AND VICTORIA COUNTIES**

**§§115.322 - 115.326**

**STATUTORY AUTHORITY**

The amended sections are adopted under Texas Water Code (TWC), §5.102, concerning General Powers, that provides the commission with the general powers to carry out its duties under the TWC; TWC, §5.103, concerning Rules, that authorizes the commission to adopt rules necessary to carry out its powers and duties under the TWC; TWC, §5.105, concerning General Policy, that authorizes the commission by rule to establish and approve all general policy of the commission; and under Texas Health and Safety Code (THSC), §382.017, concerning Rules, that authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amended sections are also adopted under THSC, §382.002, concerning Policy and Purpose, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; and §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air. The amended sections are also adopted under THSC, §382.016, concerning Monitoring Requirements; Examination of Records, that authorizes the commission to prescribe reasonable requirements for the measuring and monitoring of air contaminant emissions and §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe the sampling methods and procedures to

determine compliance with its rules. The amended sections are also adopted under FCAA, 42 USC, §§7401, *et seq.*, which requires states to submit SIP revisions that specify the manner in which the NAAQS will be achieved and maintained within each air quality control region of the state.

The amended sections implement THSC, §§382.002, 382.011, 382.012, 382.016, 382.017, and 382.021, and FCAA, 42 USC, §§7401 *et seq.*

**§115.322. Control Requirements.**

For Gregg, Nueces, and Victoria Counties, no person shall operate a petroleum refinery without complying with the following requirements.

(1) No component may be allowed to have a volatile organic compound (VOC) leak as defined in §101.1 of this title (relating to Definitions) for more than 15 calendar days after the leak is found, except as provided in paragraph (2) of this section. If the owner or operator elects to use the alternative work practice in §115.358 of this title (relating to Alternative Work Practice), the definition of a leak for the purposes of this paragraph is as specified in §115.358 of this title, including any leak detected using the alternative work practice on a component that is subject to the requirements of this division (relating to Fugitive Emission Control in Petroleum Refineries in Gregg, Nueces, and Victoria Counties) but not specifically selected for alternative work practice monitoring.

(2) A first attempt at repair must be made no later than five calendar days after the leak is found, and the component must be repaired no later than 15 calendar days after the leak is found, unless



the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate. A component in gas/vapor or light liquid service is considered to be repaired when it is monitored with an instrument using Method 21 in 40 Code of Federal Regulations Part 60, Appendix A-7 (October 17, 2000) and shown to no longer have a leak after adjustments or alterations to the component. A component in heavy liquid service is considered to be repaired when it is monitored by audio, visual, and olfactory means and shown to no longer have a leak after adjustments or alterations to the component. For any component that the owner or operator monitors using the alternative work practice in §115.358 of this title, the component is considered repaired when the component is monitored using either an optical gas imaging instrument as specified in §115.358 of this title or the normal monitoring method required under this division and is demonstrated to no longer have a leak after adjustments or alterations to the component. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown.

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

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

(5) Pipeline valves and pressure relief valves in gaseous VOC service must be marked in some manner that will be readily obvious to monitoring personnel. Alternatively, the owner or operator of the refinery may choose to monitor all components in liquid service on the schedule for components in gaseous service specified in §115.324(2) of this title (relating to Inspection Requirements). If the owner or operator elects to use the alternative work practice in §115.358 of this title to monitor components in liquid service, the frequency must be as specified in §115.358 of this title.

**§115.323. Alternate Control Requirements.**

For all affected persons in Gregg, Nueces, and Victoria Counties, the following alternate control techniques may apply.

(1) Any alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division (relating to Fugitive Emission Control in Petroleum Refineries in Gregg, Nueces, and Victoria Counties) 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.

(2) The executive director may approve an alternate monitoring method if the refinery operator can demonstrate that the alternate monitoring method satisfies the conditions of §115.324(7) of this title (relating to Inspection Requirements). Any request for an alternate monitoring method must be made in writing to the executive director.

(3) The owner or operator of a site in Gregg, Nueces, or Victoria Counties that is subject to this division may use the alternative work practice in §115.358 of this title (relating to Alternative Work Practice) as an optional alternative to hydrocarbon gas analyzer monitoring required under this division.

**§115.324. Inspection Requirements.**

For Gregg, Nueces, and Victoria Counties, the owner or operator of a petroleum refinery shall conduct a monitoring program consistent with the following provisions.

(1) The owner or operator shall measure yearly (with a hydrocarbon gas analyzer) the emissions from all:

(A) pump seals;

(B) pipeline valves in liquid service;

(C) process drains; and

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

(2) The owner or operator shall measure quarterly (with a hydrocarbon gas analyzer) the emissions from all:

(A) compressor seals;

(B) pipeline valves in gaseous service; and

(C) pressure relief valves in gaseous service.

(3) The owner or operator shall visually inspect, weekly, all pump seals.

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

(5) The owner or operator shall measure (with a hydrocarbon gas analyzer) emissions from any relief valve that has vented to the atmosphere within 24 hours.

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

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

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

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

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

(iii) Leak detection skip period requirements for any New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants may be substituted for clauses (i) and (ii) of this subparagraph.

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

(8) For any components that the owner or operator elects to use the alternative work practice in §115.358 of this title (relating to Alternative Work Practice), the following provisions apply.

(A) The frequency for monitoring any components listed in paragraphs (1) or (2) of this section must be the frequency determined according to §115.358(e) of this title, except as specified in subparagraph (C) of this paragraph.

(B) The alternative monitoring schedules allowed under paragraph (7) of this section are not allowed.

(C) If the owner or operator elects to use the alternative work practice in §115.358 of this title to satisfy the hydrocarbon gas analyzer monitoring requirement of paragraph (5) of this section, the time limitation specified in paragraph (5) of this section for performing the monitoring continues to apply.

(D) If the executive director determines that there is an excessive number of leaks in any given process area that the alternative work practice in §115.358 of this title is used, the executive director may require an increase in the frequency of monitoring under the alternative work practice for that process area of the refinery.

**§115.325. Testing Requirements.**

For all affected persons in Gregg, Nueces, and Victoria Counties, compliance with this division (relating to Fugitive Emission Control in Petroleum Refineries in Gregg, Nueces, and Victoria Counties) must be determined by applying the following test methods, as appropriate:

(1) Method 21 in 40 Code of Federal Regulations Part 60, Appendix A-7 (October 17, 2000) for determining volatile organic compound (VOC) leaks, with the provision that the leak detection equipment can be calibrated with methane, propane, or hexane, but the meter readout must be as parts per million by volume hexane;

(2) determination of true vapor pressure using American Society for Testing and Materials Test Method D323 for the measurement of Reid vapor pressure, adjusted for 68 degrees Fahrenheit (20 degrees Celsius) in accordance with American Petroleum Institute Publication 2517, Third Edition, 1989;

(3) the alternative work practice in §115.358 of this title (relating to Alternative Work Practice); or

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

**§115.326. Recordkeeping Requirements.**

For Gregg, Nueces, and Victoria Counties, the owner or operator of a petroleum refinery shall have the following recordkeeping requirements.

(1) The owner or operator shall submit to the executive director a monitoring program plan. This plan must contain, at a minimum, a list of the refinery units and the quarter that the unit will be monitored, a copy of the log book format, and the make and model of the monitoring equipment to be used. If the owner or operator elects to use the alternative work practice in §115.358 of this title (relating to Alternative Work Practice), the owner or operator must update and resubmit the plan to the executive director. The updated plan must also:

(A) identify which units are monitored according to the alternative work practice;

and

(B) include the frequency of monitoring under the alternative work practice.

(2) The owner or operator shall maintain a leaking-components monitoring log for all leaks of more than 10,000 parts per million by volume (ppmv) of volatile organic compound detected by the monitoring program required by §115.324 of this title (relating to Inspection Requirements). If the owner or operator elects to use the alternative work practice in §115.358 of this title, the log must also be maintained for all leaks detected using the alternative work practice. This log must contain, at a minimum, the following data:

(A) the name of the process unit where the component is located;

(B) the type of component (e.g., valve or seal);



(C) the tag number of the component;

(D) the date the component was monitored;

(E) the results of the monitoring (in ppmv), except for components monitored according to the alternative work practice in §115.358 of this title, which must be maintained according to paragraph (4) of this section;

(F) a record of the calibration of the monitoring instrument, except for the daily instrument check specified in the alternative work practice in §115.358 of this title, which must be maintained according to paragraph (4) of this section;

(G) if a component is found leaking:

(i) the date that a leaking component is discovered;

(ii) the date that a first attempt at repair was made to a leaking component;

(iii) the date that a leaking component is repaired;

(iv) the date and instrument reading of the recheck procedure after a leaking component is repaired; and

(v) those leaks that cannot be repaired until turnaround and the date that the leaking component is placed on the shutdown list;

(H) the total number of components checked and the total number of components found leaking; and

(I) the test method used (Method 21, sight/sound/smell, or the alternative work practice in §115.358 of this title).

(3) The owner or operator shall retain copies of the monitoring log for a minimum of five years after the date that the record was made or the report prepared.

(4) If an owner or operator elects to use the alternative work practice in §115.358 of this title, the following records must be maintained in addition to the records required by paragraphs (1) - (3) of this section.

(A) The owner or operator shall maintain a list of each component that is monitored according to the alternative work practice in §115.358 of this title.

(B) The owner or operator shall maintain records of the detection sensitivity level selected from the table in §115.358(e)(1) of this title.

(C) The owner or operator shall maintain records of the analysis to determine the component in contact with the lowest mass fraction of chemicals that are detectable, as required by the daily instrument check procedure referenced in §115.358(c)(2) of this title.

(D) The owner or operator shall maintain records of the technical basis for the mass fraction of detectable chemicals used for the daily instrument check procedure referenced in §115.358(c)(2) of this title.

(E) The owner or operator shall maintain records of each daily instrument check required by §115.358(c)(2) of this title. These records include:

(i) the flow meter reading of the leak used in the daily instrument check and the distance from which the leak was imaged;

(ii) a video record, with a date and time stamp, of the daily instrument check for each configuration and operator of the optical gas imaging instrument used during monitoring;  
and

(iii) the name of each operator performing the daily instrument check.

(F) The owner or operator shall maintain records of the leak survey results as follows for all components that the owner or operator monitors using the alternative work practice in §115.358 of this title.

(i) A video record must be used to document the leak survey results and the results of the recheck to verify the leak has been repaired, if the alternative work practice in §115.358 of this title is used to perform the recheck. The video record must meet the following requirements.

(I) The video record must include a time and date stamp for each monitoring event.

(II) Each component must be identifiable in the video record.

(ii) The records must include the name of each operator performing the leak survey for each monitoring event.

(G) The owner or operator shall maintain records of the annual Method 21 screening required by §115.358(f) of this title, including:

(i) the components screened according to Method 21;

(ii) the concentration measured according to Method 21;

(iii) the date and time of the Method 21 screening; and

(iv) the calibrations required by Method 21.

(H) The owner or operator shall maintain records of the training required by §115.358(h) of this title.

(I) The owner or operator shall maintain records of the optical gas imaging instrument manufacturer's operating parameters.

(5) The owner or operator shall maintain all monitoring records for at least five years and make them available for review upon request by authorized representatives of the executive director, United States Environmental Protection Agency, or local air pollution control agencies with jurisdiction.

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

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

**§§115.352 - 115.357, 115.358**

STATUTORY AUTHORITY

The amended and new sections are adopted under Texas Water Code (TWC), §5.102, concerning General Powers, that provides the commission with the general powers to carry out its duties under the TWC; TWC, §5.103, concerning Rules, that authorizes the commission to adopt rules necessary to carry out its powers and duties under the TWC; TWC, §5.105, concerning General Policy, that authorizes the commission by rule to establish and approve all general policy of the commission; and under Texas Health and Safety Code (THSC), §382.017, concerning Rules, that authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amended and new sections are also adopted under THSC, §382.002, concerning Policy and Purpose, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; and §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air. The amended and new sections are also adopted under THSC, §382.016, concerning Monitoring Requirements; Examination of Records, that authorizes the commission to

prescribe reasonable requirements for the measuring and monitoring of air contaminant emissions and §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe the sampling methods and procedures to determine compliance with its rules. The amended and new sections are also adopted under FCAA, 42 USC, §§7401, *et seq.*, which requires states to submit SIP revisions that specify the manner in which the NAAQS will be achieved and maintained within each air quality control region of the state.

The amended and new sections implement THSC, §§382.002, 382.011, 382.012, 382.016, 382.017, and 382.021, and FCAA, 42 USC, §§7401 *et seq.*

#### **§115.352. Control Requirements.**

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

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

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

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

(C) if the owner or operator elects to use the alternative work practice in §115.358 of this title (relating to Alternative Work Practice), any leak detected as defined in §115.358 of this title, including any leak detected using the alternative work practice on a component that is subject to the requirements of this division (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas) but not specifically selected for alternative work practice monitoring.

(2) A first attempt at repair must be made no later than five calendar days after the leak is found and the component must be repaired no later than 15 calendar days after the leak is found, unless the repair of the component would require a unit shutdown that would create more emissions than the repair would eliminate. A component in gas/vapor or light liquid service is considered to be repaired when it is monitored with an instrument using Method 21 in 40 Code of Federal Regulations (CFR) Part 60, Appendix A-7 (October 17, 2000) and shown to no longer have a leak after adjustments or alterations to the component. A component in heavy liquid service is considered to be repaired when it is inspected by audio, visual, and olfactory means and shown to no longer have a leak after adjustments or alterations



to the component. For any component that the owner or operator monitors using the alternative work practice in §115.358 of this title, the component is considered repaired when the component is demonstrated to no longer have a leak after adjustments or alterations to the component by either screening using an optical gas imaging instrument as specified in §115.358 of this title or by the normal monitoring method required under this division. If the repair of a component within 15 days after the leak is detected would require a process unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled process unit shutdown.

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

(B) Valves that can be safely repaired without a process unit shutdown may not be placed on the shutdown list.

(C) Delay of repair will be allowed for pumps, compressors, or agitators if the repair is completed as soon as practicable, but not later than six months after the leak was detected, and the repair requires replacing the existing seal design with:

(i) a dual mechanical seal system that includes a barrier fluid system;

(ii) a system that is designed with no externally actuated shaft penetrating the housing; or

(iii) a closed-vent system and control device that meets the requirements of §115.122(a)(2) of this title (relating to Control Requirements).

(3) All leaking components, as defined in paragraph (1) of this section, that cannot be repaired until a process unit shutdown must be identified for such repair by tagging. The executive director may require an early process unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting a process unit shutdown.

(4) No valves may be installed or operated at the end of a pipe or line containing VOC unless the pipe or line is sealed with a second valve, a blind flange, or a tightly-fitting plug or cap. The sealing device may be removed only while a sample is being taken or during maintenance operations, and when closing the line, the upstream valve must be closed first.

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

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

(7) To the extent that good engineering practice will permit, new and reworked components must be so located to be reasonably accessible for leak-checking during plant operation. A difficult-to-monitor component is a component that cannot be inspected without elevating the monitoring

personnel more than two meters above a permanent support surface or that requires a permit for confined space entry as defined in 29 CFR §1910.146 (December 1, 1998). Difficult-to-monitor components must be identified in a list to be made available upon request as specified in §115.356(5) of this title (relating to Recordkeeping Requirements).

(8) New and reworked piping connections must be welded, flanged, or consist of pressed and permanently formed metal-to-metal seals. Screwed connections are permissible only on new piping smaller than two inches in diameter.

(9) For pressure relief valves installed in series with a rupture disk, pin, second relief valve, or other similar leak-tight pressure relief component, a pressure gauge or an equivalent device or system must be installed between the relief valve and the other pressure relief component to monitor for leakage past the first component. When leakage is detected past the first component, that component must be repaired or replaced at the earliest opportunity, but no later than the next process unit shutdown. Equivalent devices or systems must be identified in a list to be made available upon request as specified in §115.356(5) of this title and must have been approved by the methods required by §115.353 of this title (relating to Alternate Control Requirements).

(10) Any petroleum refinery; synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process; or natural gas/gasoline processing operation in the Houston-Galveston-Brazoria area in which a highly-reactive volatile organic compound, as defined in §115.10 of this title, is a raw material, intermediate, final product, or in a waste stream is subject to the requirements

of Subchapter H of this chapter (relating to Highly-Reactive Volatile Organic Compounds) in addition to the applicable requirements of this division.

**§115.353. Alternate Control Requirements.**

(a) For all affected persons in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), any alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas) 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) The owner or operator of a site subject to the requirements of this division may use the alternative work practice in §115.358 of this title (relating to Alternative Work Practice) as an optional alternative to hydrocarbon gas analyzer monitoring required under this division.

**§115.354. Monitoring and Inspection Requirements.**

All affected persons in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), shall conduct a monitoring and inspection program consistent with the following provisions.

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

(A) process drains that receive or contact affected volatile organic compound wastewater streams as defined in Subchapter B, Division 4 of this chapter (relating to Industrial Wastewater);

(B) difficult-to-monitor components as identified in §115.352(7) of this title (relating to Control Requirements) that would otherwise be subject to more frequent monitoring under paragraph (2) of this section; and

(C) unsafe-to-monitor components that would otherwise be subject to more frequent monitoring. An unsafe-to-monitor component is a component that the owner or operator determines is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of conducting the monitoring. Components that are unsafe to monitor must be identified in a list made available upon request as specified in §115.356(5) of this title (relating to Recordkeeping Requirements). If an unsafe-to-monitor component is not considered safe to monitor within a calendar year, then it must be monitored as soon as possible during times that are safe to monitor.

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

(A) compressor seals;

(B) pump seals;

(C) accessible valves; and

(D) pressure relief valves in gaseous service.

(3) Inspect weekly, by visual, audio, and/or olfactory means, all flanges, excluding flanges that are monitored at least once each calendar year using Method 21 in 40 Code of Federal Regulations Part 60, Appendix A-7 (October 17, 2000) and excluding flanges that are unsafe to inspect. Flanges that are unsafe to inspect must be identified in a list made available upon request. If an unsafe-to-inspect flange is not considered safe to inspect within the required weekly time frame, then it must be inspected as soon as possible during a time that it is safe to inspect.

(4) Monitor (with a hydrocarbon gas analyzer) emissions from any relief valve that has vented to the atmosphere within 24 hours of the release, excluding relief valves that are unsafe to monitor or difficult to monitor. Relief valves that are unsafe to monitor must be monitored as soon as possible after relieving during times that are safe to monitor. Relief valves that are difficult to monitor must be monitored within 15 days after a release.

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

leaking components may be done by reference tagging. The reference tag should be located as close as possible to the leaking component and should clearly identify the leaking component and its location.

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

(7) After completion of the required quarterly valve monitoring for a period of at least two years, the operator of a petroleum refinery; synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process; or a natural gas/gasoline processing operation, as defined in §115.10 of this title, may request in writing to the executive director that the valve monitoring schedule be revised based on the percent of valves leaking. The percent of valves leaking must be determined by dividing the sum of valves leaking during the current monitoring period and valves for which repair has been delayed (including valves that have been classified as non-repairable under §115.357(8) of this title (relating to Exemptions)) by the total number of valves subject to the requirements. This request must include all data that have been developed to justify the following modifications in the monitoring schedule.

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

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

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

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

(10) Monitored screening concentrations must be recorded for each component in gaseous or light liquid service. Notations such as "pegged," "off scale," "leaking," "not leaking," or "below leak definition" may not be substituted for hydrocarbon gas analyzer results. For readings that are higher than the upper end of the scale (i.e., pegged) even when using the highest scale setting or a dilution probe, record a default pegged value of 100,000 parts per million by volume. This requirement does not apply to monitoring using an optical gas imaging instrument in accordance with §115.358 of this title (relating to Alternative Work Practice).



(11) All new connectors must be checked for leaks within 30 days of being placed in volatile organic compound service by monitoring with a hydrocarbon gas analyzer for components in light liquid and gas service and by using visual, audio, and/or olfactory means for components in heavy liquid service. Components that are unsafe to monitor or inspect are exempt from this requirement if they are monitored or inspected as soon as possible during times that are safe to monitor.

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

(13) For any components that the owner or operator elects to use the alternative work practice in §115.358 of this title, the following provisions apply.

(A) The frequency for monitoring any components listed in this section must be the frequency determined according to §115.358 of this title, except as specified in subparagraph (C) of this paragraph.

(B) The alternative monitoring schedules allowed under paragraphs (7) and (8) of this section are not allowed.

(C) If the owner or operator elects to use the alternative work practice in §115.358 of this title to satisfy the hydrocarbon gas analyzer monitoring requirements of paragraphs (4)

or (11) of this section, the time limitations specified in paragraphs (4) and (11) of this section on performing the monitoring continue to apply.

(D) If the component is within a class of equipment (e.g., valves, flanges, etc.) that the owner or operator has elected to use the alternative work practice in §115.358 of this title and the component meets all other conditions specified in §115.358 of this title for acceptable use of the alternative work practice, then the component may not be classified as difficult to monitor under §115.352(7) of this title unless in order to image the component as required by §115.358 of this title the monitoring personnel would have to be elevated more than two meters above a permanent support surface or would require a permit for confined space entry as defined in 29 Code of Federal Regulations §1910.146 (December 1, 1998). If the component does qualify as difficult to monitor using the alternative work practice, the owner or operator may use either Method 21 or the alternative work practice at the monitoring frequency specified in paragraph (1) of this section. Any components classified as difficult to monitor under the alternative work practice must be identified as such in the list required in §115.352(7) of this title.

(E) The owner or operator that elects to use the alternative work practice in §115.358 of this title may still classify a component as unsafe to monitor as allowed under paragraph (1)(C) of this section if the component cannot be safely monitored using either a hydrocarbon gas analyzer or the alternative work practice. The owner or operator may use either Method 21 or the alternative work practice at the monitoring frequency specified in paragraph (1) of this section. Any components classified as unsafe to monitor under the alternative work practice must be identified as such in the list required in paragraph (1)(C) of this section.

(F) If the executive director determines that there is an excessive number of leaks in any given process area that the alternative work practice in §115.358 of this title is used, the executive director may require an increase in the frequency of monitoring under the alternative work practice in that process area.

**§115.355. Approved Test Methods.**

For all affected persons in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), compliance with this division (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas) must be determined by applying the following test methods, as appropriate:

(1) Method 21 in 40 Code of Federal Regulations Part 60, Appendix A-7 (October 17, 2000) for determining volatile organic compound leaks;

(2) determination of true vapor pressure using American Society for Testing and Materials Test Methods D323, D2879, D4953, D5190, or D5191 for the measurement of Reid vapor pressure, adjusted for 68 degrees Fahrenheit (20 degrees Celsius) in accordance with American Petroleum Institute Publication 2517, Third Edition, 1989;

(3) the alternative work practice in §115.358 of this title (relating to Alternative Work Practice);

(4) minor modifications to these test methods approved by the executive director; or

(5) equivalent determinations using published vapor pressure data or accepted engineering calculations.

**§115.356. Recordkeeping Requirements.**

All affected persons in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas as defined in §115.10 of this title (relating to Definitions), shall maintain the following records, either electronically or in hard copy form, except for any video records required by paragraph (4) of this section, which must be maintained electronically.

(1) The owner or operator shall maintain records identifying each process unit subject to fugitive monitoring in accordance with this division (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas) including, at a minimum, the following information:

(A) the name of each process unit;

(B) a scale plot plan showing the location of each process unit;

(C) process flow diagrams for each process unit showing the general process streams and major equipment on which the components are located; and

(D) the expected volatile organic compound emissions if the process unit is shut down for repair of components or other equipment, including:

(i) the total emissions;

(ii) the calculations used; and

(iii) engineering assumptions applied.

(2) The owner or operator shall maintain records on components and process areas that contain, at a minimum, the following data:

(A) the name of the process unit where the component is located;

(B) the type of component (e.g., pump, compressor, valve, pressure relief valve, etc);

(C) all data collected in accordance with the monitoring and inspection requirements of §115.354 of this title (relating to Monitoring and Inspection Requirements) for each component required to be monitored with a hydrocarbon gas analyzer;

(D) the calibration of the monitoring instrument;

(E) if a component is found leaking, if applicable:

(i) the component identification and method of leak determination (Method 21 in 40 Code of Federal Regulations Part 60, Appendix A-7 (October 17, 2000), the alternative work practice in §115.358 of this title (relating to Alternative Work Practice), sight/sound/smell, or inert gas or hydraulic testing);

(ii) the date that a leaking component is discovered;

(iii) the date that a first attempt at repair was made to a leaking component;

(iv) the date that a leaking component is repaired;

(v) the date and instrument reading of the recheck procedure after a leaking component is repaired;

(vi) the date that the leaking component is placed on the shutdown list;

and

(vii) the date that the leaking component was taken out of service; and

(F) records of any audio, visual, and olfactory inspections of connectors, but only if a leak is detected.

(3) The owner or operator shall maintain records by process unit identifying and justifying each:

(A) unsafe-to-monitor component and unsafe-to-inspect flange;

(B) difficult-to-monitor component; and

(C) exemption by component claimed under §115.357 of this title (relating to Exemptions). The components may be identified by one or more of the following methods:

(i) a plant site plan;

(ii) color coding;

(iii) a written or electronic database;

(iv) designation of process unit boundaries;

(v) some form of weatherproof identification; or

(vi) process flow diagrams that exhibit sufficient detail to identify major pieces of equipment, including major process flows to, from, and within a process unit. Major equipment includes, but is not limited to, columns, reactors, pumps, compressors, drums, tanks, and exchangers.

(4) If an owner or operator elects to use the alternative work practice in §115.358 of this title, the following records must be maintained in addition to the records required by paragraphs (1) - (3) of this section.

(A) The owner or operator shall maintain a list of all components that are monitored according to the alternative work practice in §115.358 of this title.

(B) The owner or operator shall maintain records of the detection sensitivity level selected from the table in §115.358(e)(1) of this title.

(C) The owner or operator shall maintain records of the analysis to determine the component in contact with the lowest mass fraction of chemicals that are detectable, as required by the daily instrument check procedure referenced in §115.358(c)(2) of this title.



(D) The owner or operator shall maintain records of the technical basis for the mass fraction of detectable chemicals used for daily instrument check procedure referenced in §115.358(c)(2) of this title.

(E) The owner or operator shall maintain records of each daily instrument check required by §115.358(c)(2) of this title. These records include:

(i) the flow meter reading of the leak used in the daily instrument check and the distance from which the leak was imaged;

(ii) a video record, with a date and time stamp, of the daily instrument check for each configuration and operator of the optical gas imaging instrument used during monitoring;  
and

(iii) the name of each operator performing the daily instrument check.

(F) The owner or operator shall maintain records of the leak survey results as follows for all components that the owner or operator monitors using the alternative work practice in §115.358 of this title.

(i) A video record must be used to document the leak survey results and the results of the recheck to verify the leak has been repaired, if the alternative work practice in §115.358 of this title is used to perform the recheck. The video record must meet the following requirements.

(I) The video record must include a time and date stamp for each monitoring event.

(II) Each component must be identifiable in the video record.

(i) The records must include the name of each operator performing the leak survey for each monitoring event.

(G) The owner or operator shall maintain records of the annual Method 21 screening required by §115.358(f) of this title, including:

(i) the components screened according to Method 21;

(ii) the concentration measured according to Method 21;

(iii) the date and time of the Method 21 screening; and

(iv) the calibrations required by Method 21.

(H) The owner or operator shall maintain records of the training required by §115.358(h) of this title.

(I) The owner or operator shall maintain records of the optical gas imaging instrument manufacturer's operating parameters.

(5) The owner or operator shall maintain all monitoring records for at least five years and make them available for review upon request by authorized representatives of the executive director, United States Environmental Protection Agency, or local air pollution control agencies with jurisdiction, except that the five-year record retention requirement does not apply to records generated before December 31, 2000.

**§115.357. Exemptions.**

For all affected persons in the Beaumont-Port Arthur, Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the following exemptions apply.

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

(2) Conservation vents or other devices on atmospheric storage tanks that are actuated either by a vacuum or a pressure of no more than 2.5 pounds per square inch gauge (psig), pressure relief valves equipped with a rupture disk or venting to a control device, components in continuous vacuum service, and valves that are not externally regulated (such as in-line check valves) are exempt from the requirements of this division (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas), except that each pressure relief valve equipped with a rupture disk must comply with §115.352(9) and §115.356(3)(C) of this title (relating to Control Requirements and Recordkeeping Requirements).

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

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

(5) Reciprocating compressors and positive displacement pumps used in natural gas/gasoline processing operations are exempt from the requirements of this division except §115.356(3)(C) of this title.

(6) Components at a petroleum refinery or synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process, that contact a process fluid that contains less than 10% VOC by weight and components at a natural gas/gasoline processing operation that contact a process fluid that contains less than 1.0% VOC by weight are exempt from the requirements of this division except §115.356(3)(C) of this title.

(7) Plant sites covered by a single account number with less than 250 components in VOC service are exempt from the requirements of this division except §115.356(3)(C) of this title.

(8) Components in ethylene, propane, or propylene service, not to exceed 5.0% of the total components, may be classified as non-repairable beyond the second repair attempt at 500 parts per million by volume (ppmv). These components will remain in the fugitive monitoring program and be repaired no later than 15 calendar days after the concentration of VOC detected via Method 21 in 40 Code of Federal Regulations (CFR) Part 60, Appendix A-7 (October 17, 2000) exceeds 10,000 ppmv. For the purposes of this division, components that contact a process fluid with greater than 85% ethylene, propane, or propylene by weight are considered in ethylene, propane, or propylene service, respectively. If the owner or operator elects to use the alternative work practice in §115.358 of this title (relating to Alternative Work Practice), this exemption may not be claimed for any component that is monitored according to the alternative work practice unless the owner or operator demonstrates the leak

concentration does not exceed 10,000 ppmv using Method 21 and the owner or operator continues to monitor the component using both the alternative work practice and Method 21 according to the frequency specified in §115.358 of this title.

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

(A) pressure relief valves;

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

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

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

(10) Instrumentation systems, as defined in 40 CFR §63.161 (January 17, 1997), that meet 40 CFR §63.169 (June 20, 1996) are exempt from the requirements of this division except §115.356(3)(C) of this title.

(11) Sampling connection systems, as defined in 40 CFR §63.161 (January 17, 1997), that meet the requirements of 40 CFR §63.166(a) and (b) (June 20, 1996) are exempt from the requirements of this division except §115.356(3)(C) of this title.

(12) Components that are insulated, making them inaccessible to monitoring with a hydrocarbon gas analyzer, are exempt from the monitoring requirements of §115.354(1), (2), and (4) of this title.

(13) Components/systems that contact a process fluid containing VOC having a true vapor pressure equal to or less than 0.002 psia at 68 degrees Fahrenheit are exempt from the requirements of this division except §115.356(3)(C) of this title.

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

**§115.358. Alternative Work Practice.**

(a) Alternative work practice applicability. The owner or operator of a site subject to this division (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas) or any other division of this chapter (relating to Control of Air Pollution from Volatile Organic Compounds), when specifically allowed by that division, may use the alternative work practice of this section as an optional alternative to hydrocarbon gas analyzer monitoring required under the applicable division. The alternative work practice described in this section may only be used for components with a leak definition specified by a division of this chapter of 500 parts per million by volume (ppmv) or greater.

(b) Definitions. For the purposes of this section, the following terms have the following meanings.

(1) **Imaging**--A means or process of making emissions visible that may otherwise be invisible to the naked eye.

(2) **Optical gas imaging instrument**--An instrument that makes emissions visible that may otherwise be invisible to the naked eye.

(3) **Repair**--The adjustment or alteration of a component in order to eliminate a leak.

(4) **Leak**--A leak is:



(A) any emissions imaged by an optical gas imaging instrument, as defined in paragraph (2) of this subsection;

(B) indications of liquids dripping;

(C) indications by a sensor that a seal or barrier fluid system has failed; or

(D) screening results using Method 21 in 40 Code of Federal Regulations (CFR) Part 60, Appendix A-7 (October 17, 2000) that exceed the leak definition specified for the component by the applicable division of this chapter.

(c) Optical gas imaging instrument specifications.

(1) Any optical gas imaging instrument used for the purposes of this section must meet the requirements of 40 CFR §60.18(i)(1) (December 22, 2008).

(2) The owner or operator shall perform and the optical gas imaging instrument must meet all requirements of the daily instrument check as specified in 40 CFR §60.18(i)(2) (December 22, 2008). In addition, the daily instrument check must be performed by each optical gas imaging instrument operator that will be performing imaging for that day.

(d) Leak survey procedure. The owner or operator shall operate the optical gas imaging instrument to image every component selected for the alternative work practice in this section in

accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and subject to repair in accordance with requirements of the applicable division of this chapter. All emissions visible to the naked eye during the leak survey are also considered to be leaks and subject to repair in accordance with the applicable division of this chapter. The operator of the optical gas imaging instrument shall not image a component during the leak survey at a distance greater than the distance demonstrated by that same instrument operator during the daily instrument check for the configuration of the optical gas imaging instrument used in the leak survey.

(e) Frequency. The owner or operator that elects to use the alternative work practice in this section shall perform the leak surveys according to the following.

(1) The frequency for performing leak surveys on each component must be determined by selecting one of the frequencies in the following table, in lieu of the monitoring frequency specified for the component in the applicable division of this chapter.

Figure: 30 TAC §115.358(e)(1)

Monitoring Frequency	Detection Sensitivity Level (Grams per Hour)
Bi-Monthly	60
Semi-Quarterly	85
Monthly	100

Where:

Bi-Monthly = Every other calendar month.  
Semi-Quarterly = Twice per calendar quarter, but at least 30 days apart.

Monthly = Once per calendar month.

(2) Alternative monitoring frequencies for good performance (i.e., skip periods) are not allowed for any component that the owner or operator chooses to monitor using the alternative work practice. Alternative frequency for other purposes may be used when specifically allowed by a division of this chapter (e.g., difficult-to-monitor components).

(f) Annual Method 21 screening. Each component that an owner or operator elects to use the alternative work practice in this section must be monitored once per calendar year using Method 21 in 40 CFR Part 60, Appendix A-7 (October 17, 2000) at the leak definition required in the applicable division of this chapter. The owner or operator may choose the specific monitoring period for the annual Method 21 monitoring; however, subsequent Method 21 monitoring must be conducted every 12 months from the initial period.

(g) Notification. The owner or operator that elects to use the alternative work practice in this section shall provide written notification to the appropriate regional office at least 30 days prior to implementing use of the alternative work practice.

(1) The written notification must include:

(A) identification of each unit that the alternative work practice will be used for;

(B) identification of the specific categories of components that the alternative work practice will be used for (e.g., valves, flanges, etc.);

(C) the total number of components monitored according to the alternative work practice in each of the categories identified as required by subparagraph (B) of this paragraph; and

(D) the date that the owner or operator will begin using the alternative work practice.

(2) After the initial notification required under this subsection, the owner or operator is required to resubmit the notification to the appropriate regional office only if use of the alternative work practice is expanded to a process unit not included in the initial notification. Renotification must be submitted within 30 days after implementing use of the alternative work practice in the new process unit.

(h) Operator training. Any person that performs the alternative work practice in this section shall comply with the following minimum training requirements.

(1) The operator of the optical gas imaging instrument shall receive a minimum of 24 hours of initial training on the specific make and model of optical gas imaging instrument before using the instrument for the purposes of the alternative work practice.

(2) Operators using optical gas imaging instruments for the alternative work practice shall comply with one of the following requirements for on-going training purposes.

(A) Operators shall attend an annual eight-hour refresher training class on the optical gas imaging instrument used for the alternative work practice. Operators meeting the requirements of paragraph (3) of this subsection meet the requirements of this subparagraph.

(B) Operators shall maintain a minimum of 100 hours per 12 months of hands-on operational experience with the make and model of optical gas imaging instrument used for the alternative work practice. Operators electing this option shall maintain a log of the operator's operational experience with the optical gas imaging instrument.

(3) Prior to using a make and model of optical gas imaging instrument for the alternative work practice in this section on which they have not been trained, operators who have been trained according to paragraph (1) of this subsection shall attend an eight-hour combination update and annual refresher training class on the new make and model of optical gas imaging instrument.

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

### **DIVISION 3: FUGITIVE EMISSIONS**

#### **§§115.781, 115.782, 115.784, 115.786 - 115.788**

#### STATUTORY AUTHORITY

The amended and new sections are adopted under Texas Water Code (TWC), §5.102, concerning General Powers, that provides the commission with the general powers to carry out its duties under the TWC; TWC, §5.103, concerning Rules, that authorizes the commission to adopt rules necessary to carry out its powers and duties under the TWC; TWC, §5.105, concerning General Policy, that authorizes the commission by rule to establish and approve all general policy of the commission; and under Texas Health and Safety Code (THSC), §382.017, concerning Rules, that authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The amended and new sections are also adopted under THSC, §382.002, concerning Policy and Purpose, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; and §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air. The amended and new sections are also adopted under THSC, §382.016, concerning Monitoring Requirements; Examination of Records, that authorizes the commission to prescribe reasonable requirements for the measuring and monitoring of air contaminant emissions and §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe the sampling methods and procedures to determine compliance with its rules. The amended and new sections

are also adopted under FCAA, 42 USC, §§7401, *et seq.*, which requires states to submit SIP revisions that specify the manner in which the NAAQS will be achieved and maintained within each air quality control region of the state.

The amended and new sections implement THSC, §§382.002, 382.011, 382.012, 382.016, 382.017, and 382.021, and FCAA, 42 USC, §§7401 *et seq.*

**§115.781. General Monitoring and Inspection Requirements.**

(a) The owner or operator shall identify the components of each process unit in highly-reactive volatile organic compound (HRVOC) service that is subject to this division (relating to Fugitive Emissions). Such identification must allow for ready identification of the components, and distinction from any components that are not subject to this division. The components must be identified by one or more of the following methods:

- (1) a plant site plan;
- (2) color coding;
- (3) a written or electronic database;
- (4) designation of process unit boundaries;

(5) some form of weatherproof identification; or

(6) process flow diagrams that exhibit sufficient detail to identify major pieces of equipment, including major process flows to, from, and within a process unit. Major equipment includes, but is not limited to, columns, reactors, pumps, compressors, drums, tanks, and exchangers.

(b) Each component in the process unit must be monitored according to the requirements of Subchapter D, Division 3 of this chapter (relating to Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas), except that the following additional requirements apply.

(1) The exemptions of §115.357(1) - (12) of this title (relating to Exemptions) do not apply.

(2) The leak-skip provisions of §115.354(7) and (8) of this title (relating to Monitoring and Inspection Requirements) do not apply.

(3) The emissions from blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC; connectors; heat exchanger heads; sight glasses; meters; gauges; sampling connections; bolted manways; hatches; agitators; sump covers; junction box vents; covers and seals on volatile organic compound water separators; and process drains must be monitored each calendar quarter (with a hydrocarbon gas analyzer).



(4) All components for which a repair attempt was made during a shutdown must be monitored (with a hydrocarbon gas analyzer) and inspected for leaks within 30 days after startup is completed following the shutdown.

(5) All process drains equipped with water seal controls, as defined in §115.140 of this title (relating to Industrial Wastewater Definitions), must be inspected weekly to ensure that the water seal controls are effective in preventing ventilation, except that daily inspections are required for those seals that have failed three or more inspections in any 12-month period. Upon request by the executive director, United States Environmental Protection Agency, or any local program with jurisdiction, the owner or operator shall demonstrate (e.g., by visual inspection or smoke test) that the water seal controls are properly designed and restrict ventilation.

(6) All process drains not equipped with water seal controls must be inspected monthly to ensure that all gaskets, caps, and/or plugs are in place and that there are no gaps, cracks, or other holes in the gaskets, caps, and/or plugs. In addition, all caps and plugs must be inspected monthly to ensure that they are tightly fitting.

(7) An unsafe-to-monitor or difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored as follows.

(A) An unsafe-to-monitor component is a component that the owner or operator determines is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of conducting the monitoring. Components that are unsafe to monitor must be identified

in a list made immediately available upon request. If an unsafe-to-monitor component is not considered safe to monitor within a calendar year, then it must be monitored as soon as possible during safe-to-monitor times.

(B) A difficult-to-monitor component is a component that cannot be inspected without elevating the monitoring personnel more than two meters above a permanent support surface or that requires a permit for confined space entry as defined in 29 Code of Federal Regulations (CFR) §1910.146. A difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored annually.

(8) All pressure relief valves in gaseous service that are not equipped with a rupture disk upstream of the relief valve with a pressure-sensing device between the rupture disk and the pressure relief valve must be monitored for fugitive leaks each calendar quarter (with a hydrocarbon gas analyzer).

(9) A leak is defined as a screening concentration greater than 500 parts per million by volume above background as methane for all components. If the owner or operator elects to use the alternative work practice in §115.358 of this title (relating to Alternative Work Practice), a leak is defined as specified in §115.358 of this title, including any leak detected using the alternative work practice on a component that is subject to the requirements of this division but not specifically selected for alternative work practice monitoring.

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

"below leak definition" may not be substituted for hydrocarbon gas analyzer results. For readings that are higher than the upper end of the scale (i.e., pegged) even when using the highest scale setting or a dilution probe, record a default pegged value of 100,000 parts per million by volume. This requirement does not apply to monitoring using an optical gas imaging instrument in accordance with §115.358 of this title.

(c) Pumps, compressors, and agitators must be:

(1) inspected visually each calendar week for liquid dripping from the seals; or

(2) equipped with an alarm that alerts the operator of a leak.

(d) If securing the bypass line valve in the closed position to comply with §115.783(1)(B) of this title (relating to Equipment Standards), the seal or closure mechanism must be visually inspected to ensure the valve is maintained in the closed position and the vent stream is not diverted through the bypass line:

(1) on a monthly basis; and

(2) after any maintenance activity that requires the seal to be broken.

(e) For any pressure relief device that has vented directly to the atmosphere (uncontrolled), the associated vent must be monitored (with a hydrocarbon gas analyzer) and inspected within 24 hours after actuation and the results recorded in accordance with §115.786 of this title (relating to Recordkeeping

Requirements). If the associated vent is considered unsafe to monitor, then the vent must be monitored as soon as possible during safe-to-monitor times. If the associated vent is considered difficult to monitor, it must be monitored within 15 days after a release. This requirement does not supersede any monitoring requirements found in §115.725 of this title (relating to Monitoring and Testing Requirements).

(f) As an alternative to the requirements of subsection (b)(3) of this section for blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers, the owner or operator may elect to monitor all of these components in a process unit by April 1, 2006, and then conduct subsequent monitoring at the following frequencies.

(1) The owner or operator may monitor the components once per year (i.e., 12-month period), if the percent leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers in the process unit was 0.5% or greater, but less than 2.0%, during the last required annual or biennial monitoring period.

(2) The owner or operator may monitor the components once every two years, if the percent leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers was less than 0.5% during the last required monitoring period. An owner or operator may comply with this paragraph by monitoring at least 40% of the components in the first year and the remainder of the components in the second year. The percent leaking connectors, bolted manways, heat exchanger heads,

hatches, and sump covers will be calculated for the total of all monitoring performed during the two-year period.

(3) If the owner or operator of a process unit in a biennial leak detection and repair program calculates less than 0.5% leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers from the two-year monitoring period, the owner or operator may monitor the components one time every four years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 20% of the components each year until all connectors, bolted manways, heat exchanger heads, hatches, and sump covers have been monitored within four years.

(4) If a process unit complying with the requirements of paragraph (3) of this subsection using a four-year monitoring interval program has greater than or equal to 0.5% but less than 1.0% leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers, the owner or operator shall increase the monitoring frequency to one time every two years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40% of the components in the first year and the remainder of the components in the second year. The owner or operator may again elect to use the provisions of paragraph (3) of this subsection when the percent leaking components decreases to less than 0.5%.

(5) If a process unit complying with requirements of paragraph (3) of this subsection using a four-year monitoring interval program has greater than or equal to 1.0% but less than 2.0%

leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of paragraph (3) of this subsection when the percent leaking components decreases to less than 0.5%.

(6) If a process unit complying with requirements of paragraph (3) of this subsection using a four-year monitoring interval program has 2.0% or greater leaking blind flanges, caps, or plugs at the end of a pipe or line containing HRVOC, sight glasses, meters, gauges, connectors, bolted manways, heat exchanger heads, hatches, and sump covers, the owner or operator shall increase the monitoring frequency to quarterly. The owner or operator may again elect to use the provisions of paragraph (3) of this subsection when the percent leaking components decreases to less than 0.5%.

(g) Except as provided in paragraph (2) of this subsection, the owner or operator shall use dataloggers and/or electronic data collection devices during all monitoring required by this section. The owner or operator shall transfer electronic data from electronic datalogging devices to an electronic or hard copy database within seven days of monitoring.

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

(2) The owner or operator may use paper logs where necessary or more feasible (e.g., small rounds (less than 100 components), re-monitoring following component repair, or when dataloggers are broken or not available), and shall record, at a minimum, the information required in paragraph (1) of this subsection. The owner or operator shall transfer any manually recorded monitoring data to the electronic or hard copy database within seven days of monitoring.

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

(h) For any components that the owner or operator elects to use the alternative work practice in §115.358 of this title, the following provisions apply.

(1) The frequency for monitoring any components listed in this section must be the frequency determined according to §115.358 of this title, except as specified in paragraph (3) of this subsection.

(2) The alternative monitoring schedules allowed under subsection (f) of this section are not allowed.

(3) If the owner or operator elects to use the alternative work practice in §115.358 of this title to satisfy the hydrocarbon gas analyzer monitoring requirements of subsections (b)(4) or (e) of this section, the time limitations specified in subsections (b)(4) and (e) of this section on performing the monitoring continue to apply.

(4) If the component is within a class of equipment (e.g., valves, flanges, etc.) that the owner or operator has elected to monitor using the alternative work practice in §115.358 of this title and the component meets all other conditions specified in §115.358 of this title for acceptable use of the alternative work practice, then the component may not be classified as difficult-to-monitor under subsection (b)(7)(B) of this section unless in order to image the component as required by §115.358 of this title the monitoring personnel would have to be elevated more than two meters above a permanent support surface or would require a permit for confined space entry as defined in 29 CFR §1910.146 (December 1, 1998). If the component does qualify as difficult-to-monitor using the alternative work practice in §115.358 of this title, the owner or operator may use either Method 21 in 40 CFR Part 60, Appendix A-7 (October 17, 2000) or the alternative work practice at the monitoring frequency specified in subsection (b)(7)(B) of this section.

(5) An owner or operator electing to use the alternative work practice in §115.358 of this title may still classify a component as unsafe-to-monitor as allowed under subsection (b)(7)(A) of this section if the component cannot be safely monitored using either a hydrocarbon gas analyzer or the alternative work practice.



(6) For any components subject to subsection (b)(3) of this section that are not subject to Method 21 monitoring under 40 CFR Parts 60, 61, 63, or 65, but the owner or operator is using the alternative work practice in §115.358 of this title to satisfy a Method 21 monitoring requirement under this chapter, the owner or operator may choose to comply with the following in lieu of the annual Method 21 monitoring in §115.358(f) of this title.

(A) For any leak detected using the alternative work practice in §115.358 of this title, the owner or operator must perform a Method 21 test on the component to determine the leak concentration. The Method 21 test must be performed no later than one business day after the leak is detected using the alternative work practice in §115.358 of this title.

(B) To qualify for this option, the percent leaking components of all the components selected for this option must be less than 2.0%.

(C) The owner or operator shall perform a Method 21 test on each component selected for this option according to the frequencies specified in subsection (f) of this section. If the Method 21 test required under subparagraph (A) of this paragraph for any leak detected is within the same calendar year as the normally scheduled Method 21 test required under this subparagraph, the owner or operator may use the Method 21 test performed for subparagraph (A) of this paragraph to satisfy the requirements of this subparagraph.

(D) If the owner or operator elects to follow the alternative schedules for annual Method 21 testing under this paragraph, the owner or operator shall provide notice of electing this option with the notification required under §115.358(g) of this title.

**§115.782. Procedures and Schedule for Leak Repair and Follow-up.**

(a) Tagging. Upon the detection or designation of a leaking component, a weatherproof and readily visible tag, bearing the component identification and the date the leak was detected, must be affixed to the leaking component. The tag must remain in place until the leaking component is repaired.

(b) General rule - time to repair.

(1) For leaks detected over 10,000 parts per million by volume (ppmv), a first attempt at repairing the leaking component must be made no later than one business day after the leak is detected, and the component must be repaired no later than seven calendar days after the leak is detected.

(2) For all other leaks, a first attempt at repairing the leaking component must be made no later than five calendar days after the leak is detected, and the component must be repaired no later than 15 calendar days after the leak is detected.

(3) Except as specified in paragraph (4) of this subsection, for any leak detected using the alternative work practice in §115.358 of this title (relating to Alternative Work Practice), a first attempt at repairing the leaking component must be made no later than one business day after the leak is detected,

and the component must be repaired no later than seven calendar days after the leak is detected. If the owner or operator measures the leak concentration using Method 21 in 40 Code of Federal Regulations Part 60, Appendix A-7 (October 17, 2000) and demonstrates the leak concentration is 10,000 ppmv or less, then the time to repair is as specified in paragraph (2) of this subsection. The Method 21 test must be performed no later than the next business day after the leak was detected using the alternative work practice in §115.358 of this title .

(4) For any leak detected using the alternative work practice in §115.358 of this title from a component classified as difficult to monitor using Method 21, but not classified as difficult to monitor using the alternative work practice, the time to repair is as specified in paragraph (2) of this subsection.

(c) Delay of repair.

(1) For all components (except valves specified in paragraph (2) of this subsection), repair may be delayed beyond the period designated in subsection (b) of this section for any of the following reasons.

(A) The component is isolated from the process and does not remain in highly-reactive volatile organic compound (HRVOC) service.

(B) If the repair of a component within seven or 15 days (as specified in subsection (b) of this section) after the leak is detected would require a process unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled

process unit shutdown, provided that the owner or operator meets the conditions in both clause (i) and (ii) of this subparagraph, or meets the conditions of either clause (iii) or (iv) of this subparagraph.

(i) The owner or operator maintains documentation of the following calculations, and makes the documentation available upon request to authorized representatives of the United States Environmental Protection Agency (EPA), the executive director, and any local air pollution control agency with jurisdiction.

(I) The owner or operator shall calculate the expected mass emissions resulting from the next scheduled process unit shutdown, clearing, and subsequent startup of the unit, including the basis for the calculation and all assumptions made.

(II) The owner or operator shall calculate the mass emission rates from each leaking component in the process unit for which delay of repair is sought as determined by using the methods in the EPA correlation approach in Section 2.3.3 of the EPA guidance document *Protocol for Equipment Leak Emission Estimates* (EPA-453/R-95-017, November 1995) alone or in combination with the mass emission sampling approach in Chapter 4 of the guidance document (EPA-453/R-95-017, November 1995). To use the EPA correlation approach, the estimated hourly mass emission rate for each component shall be based on the component's current screening concentration using Method 21. The initial calculation must be performed within 30 days after the leak is detected. Where the monitoring instrument is not calibrated to read past the leak definition or 100,000 ppmv, the pegged emission rate values in Tables 2-13 and 2-14 in Section 2.3.3 of the EPA guidance document *Protocol for Equipment Leak Emission Estimates* must be used as appropriate. If the mass emission

sampling approach is used, it replaces the estimated emissions rate of the EPA correlation approach in the calculation. For any leak detected using the alternative work practice in §115.358 of this title that a corresponding Method 21 or mass emission sampling test was not performed on that specific leak, the owner or operator shall use the 100,000 ppmv pegged emission rate values in Tables 2-13 and 2-14 in Section 2.3.3 of the EPA guidance document *Protocol for Equipment Leak Emission Estimates*, as appropriate.

(III) The owner or operator shall calculate the daily mass emissions from each leaking component in HRVOC service in the process unit for which delay of repair is sought calculated as 24 times the hourly mass emission rate determined as required by subclause (II) of this clause.

(IV) The owner or operator shall calculate the total daily mass emissions in the process unit from the calculations made in subclause (III) of this clause for leaking components in HRVOC service in the unit for which delay of repair is sought.

(ii) The total daily mass emissions from leaking components in HRVOC service in the process unit for which delay of repair is sought as determined in clause (i)(IV) of this subparagraph will be less than the daily mass emissions resulting from shutdown, clearing, and subsequent startup of the unit as determined in clause (i)(I) of this subparagraph or 500 pounds, whichever is greater.

(iii) As an alternative to the requirements of clause (i) and (ii) of this subparagraph, delay of repair is allowed for each leaking component for which the owner or operator has chosen to undertake extraordinary efforts to repair the leak. For purposes of this subparagraph, extraordinary efforts is defined as nonroutine repair methods (e.g., sealant injection) or utilization of a closed-vent system to capture and control the leaks by at least 90%.

(I) For leaks detected over 10,000 ppmv, extraordinary efforts must be undertaken within 22 calendar days after the leak is found. The owner or operator may keep the leaking component on the shutdown list only after two unsuccessful attempts to repair the leaking component through extraordinary efforts, provided that the second extraordinary effort attempt is made within 37 calendar days after the leak is found.

(II) For all other leaks, extraordinary efforts must be undertaken within 30 calendar days after the leak is found, and a second extraordinary effort attempt is not required to keep the component on the shutdown list.

(III) For any leak detected from a component using the alternative work practice in §115.358 of this title, extraordinary efforts must be performed as specified in subclause (I) of this clause. If the owner or operator measures the leak concentration using Method 21 and demonstrates the leak concentration is 10,000 ppmv or less, then extraordinary efforts must be as specified in subclause (II) of this clause. The Method 21 test must be performed no later than one business day after the leak was detected using the alternative work practice screening.

(iv) The component is repaired or replaced at the next scheduled shutdown. The executive director may require an early process unit shutdown, or other appropriate action, based on the number and severity of leaks awaiting a shutdown.

(C) The components are pumps, compressors, or agitators, and:

(i) repair requires replacing the existing seal design with:

(I) a dual mechanical seal system that includes a barrier fluid system;

(II) a system that is designed with no externally actuated shaft penetrating the housing; or

(III) a closed-vent system and control device that meets the requirements of §115.783 of this title (relating to Equipment Standards); and

(ii) repair is completed as soon as practicable, but no later than six months after the leak was detected.

(2) For valves that are not pressure relief valves or automatic control valves, repair may only be delayed beyond the period designated in subsection (b) of this section if the conditions of either subparagraphs (A) or (B) of this paragraph are met.

(A) The valves are repaired or replaced at the next scheduled process unit shutdown. The owner or operator shall also do one of the following.

(i) The owner or operator undertakes extraordinary efforts to repair the leaking valve. For purposes of this subparagraph, extraordinary efforts is defined as nonroutine repair methods (e.g., sealant injection) or utilization of a closed-vent system to capture and control the leaks by at least 90%.

(I) For leaks detected over 10,000 ppmv, extraordinary efforts must be undertaken within 14 calendar days after the leak is found. The owner or operator may keep the leaking valve on the shutdown list only after two unsuccessful attempts to repair a leaking valve through extraordinary efforts, provided that the second extraordinary effort attempt is made within 15 days of the first extraordinary effort attempt.

(II) For all other leaks, extraordinary efforts must be undertaken within 30 calendar days after the leak is found, and a second extraordinary effort attempt is not required to keep the valve on the shutdown list.

(III) For any leak detected from a component using the alternative work practice in §115.358 of this title, extraordinary efforts must be performed as specified in subclause (I) of this clause. If the owner or operator measures the leak concentration using Method 21 and demonstrates the leak concentration is 10,000 ppmv or less, then extraordinary efforts must be as



specified in subclause (II) of this clause. The Method 21 test must be performed no later than one business day after the leak was detected using the alternative work practice screening.

(ii) The owner or operator maintains, and makes available upon request, documentation to authorized representatives of EPA, the executive director, and any local air pollution control agency having jurisdiction that demonstrates that there is a safety, mechanical, or major environmental concern posed by repairing the leak by using extraordinary efforts and emissions from the leaking valves are included in the calculation of total daily mass emissions required by paragraph (1)(B)(i)(IV) of this subsection.

(B) The valve is isolated from the process and does not remain in HRVOC service.

(d) Demonstration of repair. For the purposes of this section, a component is considered repaired:

(1) for any component that the owner or operator monitors using the alternative work practice in §115.358 of this title, when the component is demonstrated to no longer have a leak after adjustments or alterations to the component by either screening using an optical gas imaging instrument as specified in §115.358 of this title or by using Method 21 at the leak definition in §115.781(b)(9) of this title (relating to General Monitoring and Inspection Requirements); and

(2) for all other components, when the component is demonstrated to no longer have a leak after adjustments or alterations to the component by the normal monitoring method required under this division.

**§115.784. Alternate Control Requirements.**

(a) The executive director may approve alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division (relating to Fugitive Emissions) 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) The owner or operator of a site subject to the requirements of this division may use the alternative work practice in §115.358 of this title (relating to Alternative Work Practice) as an optional alternative to hydrocarbon gas analyzer monitoring required under this division.

**§115.786. Recordkeeping Requirements.**

(a) If using a flow indicator to comply with §115.783(1)(A) of this title (relating to Equipment Standards), the owner or operator shall:

(1) maintain hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during the hour; and

(2) record all periods when:

(A) the vent stream is diverted from the control stream; or

(B) the flow indicator is not operating.

(b) If securing the bypass line valve in the closed position to comply with §115.783(1)(B) of this title, the owner or operator shall:

(1) maintain a record of the dates that the monthly visual inspection of the seal or closure mechanism has been performed;

(2) record the date and time of all periods when:

(A) the seal mechanism is broken;

(B) the bypass line valve position has changed; or

(C) the key for a lock-and-key type lock has been checked out; and

(3) maintain a record of each time the bypass line valve was opened, including:

(A) the date and time the valve was opened;

(B) the date and time the valve was closed;

(C) the reason(s) the valve was opened;

(D) the estimated flow rate through the valve; and

(E) the resulting emissions, including the basis for the emissions estimate.

(c) Records of all non-repairable components subject to §115.782(c) of this title (relating to Procedures and Schedule for Leak Repair and Follow-up) must be maintained. Reports must be submitted by January 31 for the previous July 1 through December 31 and July 31 for the previous January 1 through June 30 of each year to the Houston regional office and any local air pollution control agency having jurisdiction. The report must contain:

(1) the component identification code;

(2) the component type;

(3) the leak concentration measurement and date, if a hydrocarbon gas analyzer was used to determine the leak;

(4) if the owner or operator used the alternative work practice in §115.358 of this title (relating to Alternative Work Practice), indication that the leak was determined according to the alternative work practice and the date the leak was detected;

(5) the date of the last scheduled process unit shutdown; and

(6) the total number of non-repairable components awaiting repair or replacement.

(d) The owner or operator shall maintain records in accordance with §115.356 of this title (relating to Recordkeeping Requirements), including records identifying, by one or more of the methods specified in §115.781(a)(1) - (6) of this title (relating to General Monitoring and Inspection Requirements), and justifying each exemption claimed exempt under §115.787 of this title (relating to Exemptions). The following additional requirements also apply:

(1) the calculation showing the estimated volatile organic compound (VOC) emission rates of the component as required by §115.782(c)(1)(B)(i)(II) of this title if extraordinary efforts are not going to be initiated; and

(2) records for each process unit with leaking components, updated within five business days after a leaking component is determined to require a process unit shutdown to repair and where extraordinary efforts to repair the component will not be pursued, including the following:

(A) the date, calculations, and estimated daily VOC emissions as required by §115.782(c)(1)(B)(i)(III) of this title;

(B) the date, calculations, and comparison of daily VOC emissions as required by §115.782(c)(1)(B)(i)(IV) and (ii) of this title; and

(C) the date of each process unit shutdown required due to VOC emissions of leaking components exceeding the expected VOC emissions from the shutdown.

(e) The owner or operator shall maintain a record of the results of all monitoring and inspections conducted in accordance with §115.781 of this title.

(f) If the owner or operator elects to use the alternative work practice in §115.358 of this title, the following records must be maintained in addition to the records required by subsections (a) - (e) of this section.

(1) The owner or operator shall maintain a list of each component that is monitored according to the alternative work practice in §115.358 of this title.

(2) The owner or operator shall maintain records of the detection sensitivity level selected from the table in §115.358(e)(1) of this title.

(3) The owner or operator shall maintain records of the analysis to determine the component in contact with the lowest mass fraction of chemicals that are detectable, as required by the daily instrument check procedure referenced in §115.358(c)(2) of this title.

(4) The owner or operator shall maintain records of the technical basis for the mass fraction of detectable chemicals used for the daily instrument check procedure referenced in §115.358(c)(2) of this title.

(5) The owner or operator shall maintain records of each daily instrument check required by §115.358(c)(2) of this title. These records include:

(A) the flow meter reading of the leak used in the daily instrument check and the distance from which the leak was imaged;

(B) a video record, with a date and time stamp, of the daily instrument check for each configuration and operator of the optical gas imaging instrument used during monitoring; and

(C) the name of each operator performing the daily instrument check.

(6) The owner or operator shall maintain records of the leak survey results as follows for all components that the owner or operator monitors using the alternative work practice in §115.358 of this title.

(A) A video record must be used to document the leak survey results and the results of the recheck to verify the leak has been repaired, if the alternative work practice in §115.358 of this title is used to perform the recheck. The video record must meet the following requirements.

(i) The video record must include a time and date stamp for each monitoring event.

(ii) Each component must be identifiable in the video record.

(B) The records must include the name of each operator performing the leak survey for each monitoring event.

(7) The owner or operator shall maintain records of the annual Method 21 screening required by §115.358(f) of this title, including:

(A) the components screened according to Method 21;

(B) the concentration measured according to Method 21;

(C) the date and time of the Method 21 screening; and

(D) the calibrations required by Method 21.



(8) The owner or operator shall maintain records of the training required by §115.358(h) of this title.

(9) If the owner or operator elects to use the alternative frequencies for the annual Method 21 specified in §115.781(h)(6) of this title, the following additional records must be maintained:

(A) a list of each component that the owner or operator is using the alternative frequencies allowed under §115.781(h)(6) of this title; and

(B) the percent leaking components for the specific population of components included in the alternative frequency schedule.

(10) The owner or operator shall maintain records of the optical gas imaging instrument manufacturer's operating parameters.

(g) The owner or operator shall maintain all records for at least five years and make them available for review upon request by authorized representatives of the executive director, United States Environmental Protection Agency, or local air pollution control agencies with jurisdiction.

**§115.787. Exemptions.**

(a) Components that contact a process fluid containing less than 5.0% highly-reactive volatile organic compounds by weight on an annual average basis are exempt from the requirements of this

division (relating to Fugitive Emissions), except for §115.786(e) and (g) of this title (relating to Recordkeeping Requirements).

(b) The following are exempt from the shaft sealing system requirements of §115.783(3) of this title (relating to Equipment Standards):

(1) submerged pumps or sealless pumps (e.g., diaphragm, canned, or magnetic-driven pumps); and

(2) pumps, compressors, and agitators installed before July 1, 2003.

(c) The following components are exempt from the requirements of this division:

(1) conservation vents or other devices on atmospheric storage tanks that are actuated either by a vacuum or a pressure of no more than 2.5 pounds per square inch gauge (psig);

(2) components in continuous vacuum service;

(3) valves that are not externally regulated (such as in-line check valves);

(4) any site as defined in §122.10 of this title (relating to General Definitions) with less than 250 components in volatile organic compound (VOC) service;

(5) components that are insulated, making them inaccessible to monitoring with a hydrocarbon gas analyzer;

(6) sampling connection systems, as defined in 40 Code of Federal Regulations (CFR) §63.161 (January 17, 1997), that meet the requirements of 40 CFR §63.166(a) and (b) (June 20, 1996); and

(7) instrumentation systems, as defined in 40 CFR §63.161 (January 17, 1997), that meet the requirements of 40 CFR §63.169 (June 20, 1996).

(d) All pumps, compressors, and agitators that are equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal are exempt from the monitoring requirement of §115.781(b) and (c) of this title (relating to General Monitoring and Inspection Requirements). These seal systems may include, but are not limited to, dual seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic driven pumps) may be used to satisfy the requirements of this subsection.

(e) Each pressure relief valve equipped with an upstream rupture disk is exempt from the requirements of §115.781(b)(8) of this title, provided that the pressure relief valve complies with §115.725(c) of this title (relating to Monitoring and Testing Requirements). The rupture disk must be replaced as soon as practicable, but no later than 30 calendar days after a failure is detected.

(f) The following valves are exempt from the requirements of §115.783(5) of this title:

(1) pressure relief valves;

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

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

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

(g) Any site as defined in §122.10 of this title with less than 100 valves in highly-reactive volatile organic compound service is exempt from §115.788 of this title (relating to Audit Provisions).

**§115.788. Audit Provisions.**

(a) At least once every calendar year, the owner or operator of a site as defined in §122.10 of this title (relating to General Definitions) that is subject to the highly-reactive volatile organic compound (HRVOC) fugitive monitoring requirements of this division (relating to Fugitive Emissions) shall retain the services of an independent third-party organization to conduct an audit of the process units subject to

HRVOC monitoring in this division. The field survey conducted as part of the audit must be based on a random sampling of the affected valves at the site. The random sample must be such that each valve has an equal chance of being selected from the total number of valves being sampled. The valves to be considered in this random sampling are all of the valves at the site in HRVOC service that are not exempted from quarterly monitoring by §115.787 of this title (relating to Exemptions) and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists.

(1) The independent third-party organization shall verify that all affected valves are properly tagged in accordance with §115.782(a) of this title (relating to Procedures and Schedule for Leak Repair and Follow-up).

(2) The independent third-party organization shall perform a field survey to determine the representative percentage of leaking valves determined from the random sampling of the affected units at the site as follows.

(A) The field survey must begin after the owner or operator's contracted or usual monitoring service has completed monitoring the valves for that monitoring period. The field survey must be completed by the end of the next monitoring period.

(B) The following table must be used to determine the number of valves required to be monitored in the field survey. The total valve population count is all of the valves in HRVOC service that are not exempted from quarterly monitoring by §115.787 of this title and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists based on the average of the previous four

quarters of monitoring. The company claimed leaker rate is the number of leaking valves found in the total valve population count based on the previous four quarters of monitoring divided by the total valve population count.

Figure: 30 TAC §115.788(a)(2)(B) (No change.)

Table 1: Minimum Number of Valves to Sample based on Total Valve Population Count and Company Determined Leaker Rate											
Note: Values based on a hypergeometric distribution, alpha=0.05, beta=0.20											
Null Hypothesis = company claim leaker rate is correct											
Alternate Hypothesis = greater than or equal to company claimed leaker rate plus 2%											
Total Valve Population Count	Company Claimed Leaker Rate (number of leaking valves/total population valve count)										
	0.000 up to 0.005	0.006 up to 0.010	0.011 up to 0.015	0.016 up to 0.020	0.021 up to 0.025	0.026 up to 0.030	0.031 up to 0.035	0.036 up to 0.040	0.041 up to 0.045	0.046 up to 0.050	0.051 or greater
100 to 150	87	101	110	110	116	120	124	124	127	129	131
151 to 300	139	159	165	173	193	200	213	218	226	233	236
301 to 400	152	167	183	204	228	265	278	284	290	296	305
401 to 500	155	172	201	234	250	278	280	295	300	312	328
501 to 600	158	207	220	263	281	295	343	349	354	359	362
601 to 700	159	211	238	266	303	319	343	353	370	391	402
701 to 800	161	223	253	268	310	362	386	389	392	408	422
801 to 900	162	234	272	297	331	385	385	392	422	439	462
901 to 1,000	163	245	278	298	337	387	391	411	443	456	481
1,001 to 1,500	165	254	280	330	386	414	451	486	526	551	567
1,501 to 2,000	167	256	316	359	392	460	495	525	565	599	629

2,001 to 2,500	214	258	316	361	416	462	515	562	598	613	671
2,501 to 3,000	216	258	316	390	443	485	557	581	634	660	703
3,001 to 6,000	218	260	320	393	471	532	600	639	704	742	806
6,001 to 10,000	219	261	354	422	472	555	622	676	738	790	850
10,001 to 25,000	219	262	355	423	498	557	643	696	773	823	894
25,001 to 100,000	220	262	356	424	499	579	644	715	790	854	924
100,001 or greater	220	301	356	424	499	579	644	715	791	855	924

(C) The following alternatives may be used in lieu of subparagraph (B) of this paragraph to determine the number of valves required to be monitored in the field survey. The required sample size must be calculated using a hypergeometric distribution that characterizes sampling from a given finite population of valves without replacement and reported leaker rate. Commercially available statistical software programs may be used. The sample size must be determined according to the following requirements.

(i) The total valve population count is all of the valves in HRVOC service that are not exempted from quarterly monitoring by §115.787 of this title and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists based on the average of the previous four quarters of monitoring. The company claimed leaker rate is the number of leaking valves found in the

total valve population count based on the previous four quarters of monitoring divided by the total valve population count.

(ii) Type I error rate must be less than or equal to 0.05. A Type I error occurs when the company claimed leaker rate accurately reflects the true proportion of leakers, yet the test falsely indicates that the true percentage of leakers is greater than reported (false positive).

(iii) Type II error rate must be less than or equal to 0.20, when the minimum difference between the company's claimed leaker rate and the true population leaker rate is at least 2%. A Type II error occurs when the true leaker rate is in fact greater than the reported rate, but the test fails to so indicate (false negative).

(D) The independent third-party organization shall perform the field survey in accordance with Method 21 in 40 Code of Federal Regulations Part 60, Appendix A-7 (October 17, 2000) if the majority of valves in HRVOC service are monitored according to Method 21. The independent third-party organization shall follow subsection (h) of this section if the majority of valves in HRVOC service are monitored according to the alternative work practice in §115.358 of this title.

(3) The independent third-party organization shall conduct a review of all data generated by monitoring technicians in the previous quarter. This review must include:

(A) identification of data patterns indicative of failure to properly implement Method 21 including, but not limited to, a review of the number of valves monitored per technician and



the time between monitoring events to validate that the sampling procedures accurately reflect the requirements of Method 21 including identification of specific instances in which a monitoring technician recorded data faster than was physically possible due to the hydrocarbon gas analyzer response time and/or the time required for the technician to move to the next component; and

(B) a review of records to verify that the calibration requirements of Method 21 have been properly implemented.

(b) For purposes of this section, an independent third-party organization is an organization in which the owner or operator (including any subsidiary, parent company, sister company, or joint venture) of the petroleum refinery; synthetic organic chemical, polymer, resin, or methyl tert-butyl ether manufacturing process; or natural gas/gasoline processing operation has no ownership or other financial interest. If the owner or operator's routine monitoring is done by a contractor rather than by in-house monitoring, then the independent third-party organization must be a different contractor from that ordinarily used for those services.

(c) The owner or operator shall submit a verbal notification to the Houston regional office and any local air pollution control agency having jurisdiction that provides the date that the independent third-party organization is scheduled to begin the audit. The notification must be submitted at least 30 days prior to the start date of the audit. The notification must also identify whether the audit will be conducted using Method 21 or the alternative work practice in §115.358 of this title.

(d) The owner or operator shall furnish the Houston regional office and any local air pollution control agency having jurisdiction a copy of the results of the audit authored by the independent third-party organization within 30 days after completion of the audit requirements listed in subsection (a) of this section. The report must include:

(1) the number of valves that were not tagged, but should have been tagged in accordance with §115.782(a) of this title;

(2) the number of valves monitored during the field survey, the number of leaking valves found during the field survey, the percentage of leaking valves identified by the independent third-party organization during the field survey, and a detailed description of the sampling scheme used to ensure that a random sample of valves was selected so that each valve had an equal chance of being selected from the total number of valves being sampled;

(3) the total number of valves in HRVOC service that are not exempted from quarterly monitoring by §115.787 of this title and are not listed on either the difficult-to-monitor or the unsafe-to-monitor lists monitored based on the average of the previous four quarters of monitoring, the total number of leaking valves found at the site by the owner or operator's contracted or usual monitoring service based on the average of the previous four quarters of monitoring, and the percentage of leaking valves based on the average of the previous four quarters of monitoring;

(4) the methodology used to select the field survey sample size, and if the alternative provided in subsection (a)(2)(C) of this section was used to determine the number of valves to be sampled in the field survey, documentation must include:

(A) the actual Type I and Type II error rates associated with the sample size used; and

(B) a detailed description of the methodology used to calculate the sample size; and

(5) a summary of the independent third-party organization's review of all data generated by monitoring technicians in the previous quarter by the owner or operator's contracted or usual monitoring service for each of the categories specified in subsection (a)(3)(A) and (B) of this section.

(e) If the results of the independent third-party audit indicate deficiencies in the implementation of Method 21 or in the implementation of the alternative work practice in §115.358 of this title, the owner or operator shall submit a corrective action plan with the audit report to the Houston regional office and any local air pollution control agency having jurisdiction.

(f) Authorized representatives of the executive director, United States Environmental Protection Agency, or any local air pollution control agency with jurisdiction may conduct an audit of the owner or operator's leak detection and repair program.

(g) In lieu of complying with subsections (a) - (d) of this section, an owner or operator may request approval from the executive director of an alternative method that demonstrates equivalency with the independent third-party audit, provided that the request:

(1) includes a detailed explanation of how the equivalency will be demonstrated, including the appropriate recordkeeping and reporting requirements that will be implemented that are sufficient to demonstrate compliance with the alternative method; and

(2) demonstrates that it is a replicable procedure and details how the equivalency will be demonstrated.

(h) If the owner or operator of a site subject to the third-party audit requirements of this section elects to use the alternative work practice in §115.358 of this title to monitor valves in HRVOC service, the following additional provisions will apply.

(1) The field survey must be conducted as specified in subsection (a)(2) of this section, except that the independent third-party organization shall perform the field survey according to the alternative work practice in §115.358 of this title.

(2) In lieu of the data review specified under subsection (a)(3) of this section, the independent third-party organization shall conduct a review of all data and video generated by the monitoring personnel in the previous monitoring interval as specified in §115.358 of this title. For

example, if the frequency for performing the alternative work practice is monthly, the review includes data from the monitoring event in the prior calendar month.

(A) The review must include a review of records to verify:

(i) the optical gas imaging instrument meets the requirements referenced in §115.358(c)(1) of this title;

(ii) the daily instrument check was performed as required by §115.358(c)(2) of this title; and

(iii) monitoring personnel performing the alternative work practice have satisfied the training requirements specified in §115.358(h) of this title.

(B) The review must also include identification of any:

(i) instances that components were imaged at a distance greater than demonstrated during the daily instrument check;

(ii) instances that the optical gas imaging instrument was not operated in accordance with the instrument manufacturer's operating parameters; and

(iii) leaking components in the video records that were not identified as leaking by the routine monitoring personnel.

(C) In lieu of the categories specified in subsection (a)(3)(A) and (B) of this section, the report contents specified in subsection (d)(5) of this section must include a summary of the independent third-party organization's review based on the categories specified in subparagraphs (A) and (B) of this paragraph.

(3) If the owner or operator is performing a combination of Method 21 hydrocarbon gas analyzer monitoring according to §115.781 of this title (relating to General Monitoring and Inspection Requirements) and the alternative work practice according to §115.358 of this title on different valves in HRVOC service, the field survey and data review must be performed based on how the majority of valves in HRVOC service were monitored in the evaluation period of the third party audit (e.g., if greater than 50% of valves in HRVOC service were monitored according to the alternative work practice, then the field survey and data review must be conducted according to this subsection). The population of valves used for the field survey in subsection (a)(2) of this section must only include those valves monitored according to the method (i.e., Method 21 or alternative work practice) that will be used in the field survey.

(i) Upon review of the audit results, the executive director may specify additional corrective actions beyond any potential corrective actions submitted in the documentation required under subsection (e) of this section.